

choice

JUNE 2008 • CHOICE.COM.AU



Car safety results

Some small cars give as much crash protection as big cars — find out which.



Digital cameras

Are you point-and-shoot or a zoom lens fan? Our test finds good cameras for both.

On test

- + Vacuum cleaners
- + Bathroom cleaners
- + Flame-effect heaters
- + Digital cameras
- + Laundry detergents
- + All-in-one printers
- + Speaker docks

Do 'green' labels tell the truth? Spot the six sins of greenwash

Hot chocolate — find the yummiest

Reverse mortgages: make one work for you

Home broadband: we cut through the confusion



229 PRODUCTS
RATED!

180 mueslis! Which ones did we pick as the best of all worlds? Low fat, low sugar, lots of fruit...

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EMAIL ausconsumer@choice.com.au

How CHOICE helps you. CHOICE gives you the power to choose the very best goods and services, and avoid the worst. Because we pay full price for the products we test, we can remain 100% independent. We don't take advertising and we don't accept freebies from industry — our only aim is to give consumers the best possible information about buying products and services. Our income is only from subscriptions to our magazines and choice.com.au, and from other services we supply for the benefit of consumers. We're not a government body and we don't receive government funding.

We have laboratories in Marrickville, Sydney, that test everything from juicers to plasma TVs, coffee grinders to MP3 players and air conditioners. We test hundreds of products every year. There's no hidden agenda to our testing — we simply road-test products so that consumers like you don't get ripped off. CHOICE ratings are based on lab tests, expert assessments and consumer surveys.

CHOICE also has staff who research a wide range of consumer services — everything from the financial industry to the organic food business, supermarket practices to drug companies and pharmacies. They reveal the truth behind the facts and figures, and investigate the quality and the claims.

CHOICE has also always campaigned about consumer goods and services that affect your life. We lobby government and regulators on behalf of all consumers in Australia. CHOICE was established in 1959 and is a not-for-profit, non-party-political organisation.

CHOICE Best Buy

BEST
BUY

CHOICE calls a product a Best Buy if it delivers high quality at a comparatively low price. Not every test report has Best Buys.

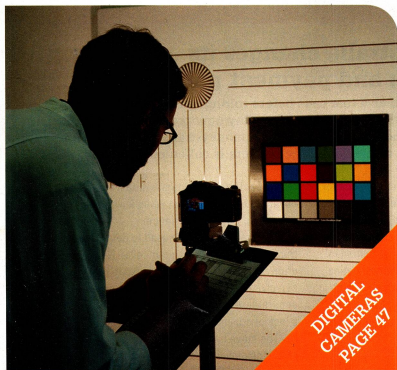
CHOICE Shopper

CHOICE
SHOPPER
BEST VALUE

Call 1300 360 655. All you need is the model name and number you want to buy, the price you want to beat, and your CHOICE subscriber number. CHOICE Shopper is available to personal subscribers only.

Subscribe to CHOICE

Personal subscription 1 year \$78, 2 years \$145.
Company/institution 1 year \$125, 2 years \$239.
For subscription and renewal enquiries only, call 1800 069 552



DIGITAL
CAMERAS
PAGE 47

On test

- 38 + Vacuum cleaners** Some mid-priced vacuums work as well as expensive ones.
- 42 + Bathroom cleaners** There are some clear winners in our latest test.
- 44 + Flame-effect heaters** They can heat a room, but basic safety features are missing.
- 47 + Digital cameras** Our recommended models should please everyone from point-and-shoot devotees to zoom lens fans.
- 52 + Liquid laundry detergents** They're better than powders in greywater on your garden.
- 56 + Printers** All-in-one printers save money and space but there's always a compromise.
- 60 + Speaker docks** Only two of the 10 we tested made it into our *What to buy* list.



CHOICEextra.com.au

This is a free website for CHOICE magazine subscribers. It's an index of articles going back to Jan/Feb 2002, with links to PDFs so that you can read many of them immediately. You log in with your subscriber number, which is above your name on the mailing label that comes with the magazine.

Comment

Protecting consumers in a credit crunch



Australians are already experiencing flow-on effects of the global credit crunch. Higher mortgage and credit card interest rates are widespread. CHOICE is particularly concerned about borrowers whose standard variable home loan interest rates have risen by more than the

official Reserve Bank of Australia increases.

Consumers with high interest rates should be able to switch to a better deal without significant penalty. But they're often locked into their home mortgage because of high early termination fees, which can be thousands of dollars on an average-size home loan. Earlier this year we successfully lobbied to get this issue on the government's agenda, and in February the Treasurer announced a review of mortgage entry and exit fees. We've argued that early termination fees are too high, difficult to compare and limit competition between mortgage providers.

But there are big hurdles to protecting borrowers in the current regulatory environment. There are no nationally consistent laws regulating mortgage brokers, and consumer credit is regulated by individual state governments. CHOICE has argued that the Federal Government is the appropriate authority to regulate credit markets, including mortgage brokers.

The global situation has spurred action. In March the Council of Australian Governments agreed in principle to a national takeover of home loan products and advice, and will further consider a national takeover of personal loans, payday lenders and other types of credit.

One of the causes of the US mortgage crisis was its poor practices in home lending. In Australia we've already seen limited examples of the same type of predatory lending. Good credit regulation can stamp this out and encourage more responsible lending practices.

CHOICE is lobbying for the Federal Government to assume responsibility for all consumer credit products as soon as possible. Amid the current turmoil it's clear we need a strong, national regulatory presence to protect consumers in credit markets. ■

Ann Fries
Editorial Director

+ CHANGES TO EBAY



eBay Australia changes its feedback and payment policies

Using Australia as a test case before rolling out its new payment policy internationally, online auction site eBay now requires Australians to pay for items via the eBay-owned PayPal money-transfer service, eliminating other payment methods unless the item is collected in person.

eBay members fear that sellers won't be able to alert others to buyers who don't pay up.

PayPal charges sellers its own set of fees in addition to eBay and stands to make a good deal of money out of the change. eBay Australia says redirecting payment options through the PayPal system will increase transaction safety. At the time of writing, the Australian Competition and Consumer Commission is investigating the situation. In a submission to the ACCC, the Reserve Bank of Australia expressed concern about the lack of alternatives for online payments and the restriction on sellers to negotiate lower fees.

eBay has also made changes to its worldwide customer feedback policy, with sellers no longer able to post negative ratings about a buyer. The move revises eBay's original policy of allowing both buyers and sellers to leave ratings on each other's feedback profiles. eBay says the previous system had resulted in many members being reluctant to leave negative feedback, fearing retaliatory negative feedback in

response. The new system is meant to encourage buyers to be more honest when leaving feedback about their buying experience.

Feedback ratings are used to determine the trustworthiness of a buyer or seller. Negative feedback often resulted when a buyer failed to pay, while buyers can give negative feedback when a product doesn't accurately match its auction description or if there's a lack of communication.

The move has been criticised by members of the eBay community, sparking fears that sellers will be less able to alert others about buyers who don't pay up. eBay has defended the changes, saying that since buyers are taking the primary risk when making a transaction, only they should be authorised to submit negative feedback. "Many buyers have said that receiving a negative is the primary reason they have decreased or ceased their activity on eBay," a spokesperson said. ■

+ BANK FEES

new

CHOICE PRICES

Due to increasing costs, from 1 August 2008 the price of a subscription will increase to:

- **Personal subscription**
Quarterly \$20.50.
One year \$82.
Two years \$153.
- **Institution/company**
One year \$132.
Two years \$253.
- **Already a CHOICE subscriber** Upgrade to CHOICE Online for an additional \$15.50/quarter.
- **CHOICE and CHOICE Online** \$36/quarter.

NAB penalty-free account

National Australia Bank (NAB) is the first of the major banks to offer a standard transaction account with no penalty fees. Its Clear Banking account doesn't charge penalties (which the banking industry calls exception fees) if your account becomes overdrawn, or if it has insufficient funds to pay a direct debit or periodic payment. Typically, other banks charge between \$30 and \$50 for these events. CHOICE welcomes the introduction of this account, which is another positive outcome of our campaign against excessive and unfair penalty fees.

- The monthly account fee for this NAB account is \$6, which covers all:
- Deposits and withdrawals at NAB branches.
- NAB phone and internet banking transactions.
- Transactions at NAB ATMs (transactions at non-NAB ATMs cost \$2).
- EFTPOS transactions.

The monthly \$6 account fee is waived if you deposit at least \$3500 per month into the account.



This is another positive outcome of CHOICE's campaign against unfair fees.

+ MISLEADING ADVERTISING



ACCC on the offensive

The Australian Competition and Consumer Commission has been busy lately taking action against several companies for misleading advertising.

The ACCC has commenced proceedings in the Federal Court in Perth against Nudie Foods Australia, claiming it made misleading

claims on the packaging and promotional material for Rosie Ruby and Rosie Blue fruit juice products.

Nudie allegedly implied that the Rosie Ruby fruit juice was made either solely or predominantly of cranberry, while Rosie Blue was made either solely or predominantly of cranberry and blueberry. Rosie Blue was actually 80% apple juice, while Rosie Blue was 78% apple juice.

Meanwhile Tasti products, manufacturer of Weight Watchers fruit cereal bars, has given court-enforceable undertakings to the ACCC to amend its packaging due to misleading wording and images used on the bars. The ACCC was concerned that the pictures implied the bars contained significant amounts of particular fruits, when the content of those fruits was no more than 1%–1.5%. The products included Weight Watchers Cereal Bars, Strawberry and Raspberry Duo, Raspberry Pie, Apricot Pie and Fruit of the Forest.

Go Natural will amend its Go Natural Berry Pieces in Yoghurt and Go Natural Apricot Pieces in Yoghurt packaging after the ACCC considered it to be misleading. The ACCC said the packaging implied the products were unprocessed berry and/or apricot pieces coated in yoghurt, when they were a fruit-based mixture consisting mostly of fruit concentrate, sugar and semolina.

CHOICE is heartened to see the ACCC cracking down on this sort of misleading representation. If you know of a case of misleading advertising, alert the ACCC by calling 1300 302 502. ■

PHOTOGRAPH: GENE ROSS

UPDATE MORE GAS HEATER RESULTS

In the May 2008 issue of CHOICE we brought you a test of unflued gas heaters and promised test results for two more models we encountered problems with in the original test.

The additional results are now available: go to choiceextra.com.au, look under 'Gas heaters, fuelless' in the index, and click on May 08 or the red arrow.

+ BUILDER'S WARRANTY

Tasmania scraps builder's warranty

Home owners in Tasmania will be able to save on expensive building costs, following the state government's decision to scrap a compulsory — but largely worthless — insurance scheme.

Tasmania has become the first state to axe the mandatory housing indemnity insurance scheme. The scheme, known as 'builder's warranty insurance', involves a premium paid by home owners, but it provides little to no insurance against poor building work.

Consumer groups have long argued that many home owners are unaware that claims can only be made under extreme circumstances, such as the death, disappearance or financial insolvency of a builder.

The Tasmanian Government said the insurance doesn't provide the resolution or security that people expected. Consumers are often unsure of what the warranty covers and may be left with no option but to turn to the courts, which can be time-consuming and costly.

The insurance is currently compulsory in all other states and territories and adds approximately \$1500–\$2000 to the cost of building a new home. The scheme will be phased out in Tasmania over the next 18 months.

According to the government, it will be replaced by a new statutory framework, which will include a dispute-resolution program as an alternative to the courts. The Office of Consumer Affairs and Fair Trading will administer the program.

"Consumers need protection if something goes wrong with their home building contract," said CHOICE Director of Policy and Campaigns, Gordon Renouf. "This means good-quality insurance and access to an alternative dispute resolution scheme."

"Only Queensland's and the NT's builder's insurance meet these criteria at the moment. With this announcement, Tasmania goes as far as it can to matching the Queensland scheme."

CHOICE calls on the other states and territories to act to ensure that home building insurance and warranty schemes offer value for money, as recommended by a recent Productivity Commission inquiry.

For a comprehensive article on builder's warranty insurance and its pitfalls, see CHOICE, August 2004, or go to choiceextra.com.au and click on that issue under 'Insurance, home warranty' in the index. ■



+ COSMETIC SURGERY

Botox warnings required

As Botox moves from the realm of the rich and famous into the mainstream, one consumer advocacy group says its use is linked to life-threatening conditions and wants clearer warnings sent to doctors and clients.

Over nine years, drug makers reported 180 cases of life-threatening conditions after botox injections.

Botox and similar injections should come with stronger health warnings after being linked to 16 deaths, says US consumer group Public Citizen.

The botulinum toxin (sold in Australia under brands Botox and Dysport), which relaxes muscles by blocking nerve impulses, is commonly known as the wrinkle eraser of the rich and famous. It's also used for the treatment of other conditions, such as spasmodic torticollis (rigid neck muscles) and blepharospasm (uncontrolled blinking of the eyelids).

In a petition to the Food and Drug Administration (FDA), Public Citizen called for a 'black box' warning, the strongest warning the agency can make, on Allergan's Botox (Type A) and Solstice Neurosciences' Myobloc (Type B). They also want the FDA to send a 'warning' letter to doctors, and patients to be given a medication guide at the time of the injection, with information on symptoms of adverse reactions — such as difficulty swallowing, speaking or breathing.

This follows the consumer group's analysis of the FDA's Adverse Event Reporting System database, where

it found that between November 1997 and December 2006, drug makers had reported 180 cases of patients developing life-threatening conditions, such as aspiration (fluid on the lungs), after receiving botulinum toxin injections — including 16 deaths. These reports don't conclude that the treatment caused the condition, but note that it occurred following the injection.

The FDA has since notified the public about botulinum toxin type A and B, warning that they've been linked in some cases to adverse reactions, including respiratory failure and death. The FDA is currently reviewing safety data from clinical studies as well as post-marketing adverse event reports and medical literature, after which it will communicate its recommendations and regulatory actions to the public.

Dr Howard Webster, President of the Australian Society of Plastic Surgeons, told CHOICE that Botox injections are safe, provided they're administered by a trained practitioner. "Complications from Botox are uncommon, and usually consist of the injected drug inadvertently temporarily paralysing a muscle that it was not intended to paralyse," he says. ■

+ MENTAL HEALTH



Feed the kids fish

Another reason to make fish a regular part of our diet has emerged, following research that indicates that fish oil may prevent schizophrenia symptoms developing in young people at risk of the disorder. Left untreated, about one third of children who suffer from brief hallucinations or delusions go on to develop a psychotic disorder.

The study focused on a group of 81 young people with a family history of schizophrenia. Some were treated with fish oil, while others were given a placebo. While just 5% of the people who took fish oil went on to develop psychosis in the following year, 28% of those who didn't take fish oil developed symptoms. Previous studies examining the effect of fish oil on schizophrenia were smaller and tested people in later stages of the disorder. Further research is planned to establish whether the results can be replicated.

There's already good evidence that the long-chain omega-3 fatty acids in fish can reduce the risk of heart disease and are important in the development of the central nervous system in babies. Research is continuing into its benefits in cancer, ADHD and mental health.

Try to include fish in your diet several times a week, although children and pregnant and breastfeeding women must choose the type of fish carefully. Some larger species can have high mercury content, which can lead to developmental delays and neurological problems. Varieties that need to be avoided for young children and pregnant and breastfeeding mothers include shark or flake, swordfish, marlin and broadbill.

The best types to choose for low mercury and high omega-3 levels are Atlantic salmon, bonito, gemfish, mackerel, mullet, oreo dory, sardines and trevally. Tinned fish such as mackerel, pink and red salmon and sardines are good options, and if you just can't stomach fish, you could consider fish oil capsules. ■

+ BETTER PACKAGING

Greener packaging at the click of a mouse

Product packaging could become less environmentally damaging — if companies heed advice from a new online tool.



Nescafé Short Black has provoked a complaint to the National Packaging Covenant Council.

Researchers at RMIT University in Melbourne have developed software that can quickly and more cheaply assess the lifecycle of a product's packaging. Dubbed the Packaging Impact Quick Evaluation Tool, or PIQET, it's designed to make it easier for some of the project's sponsors — companies including Nestlé, Cadbury Schweppes, Lion Nathan, MasterFoods and Simplot — and other subscribers in the food, beverage and packaging industry, to identify packaging with lower environmental impacts.

Assessment won't necessarily result in change; the basics about how to reduce the impact of product packaging are already known to business and aren't always heeded. Some ways for manufacturers to

improve packaging are by choosing materials that are less bulky and more recyclable, and are made with processes that consume less water and energy.

Let's hope we see some improvements soon. Nestlé's Nescafé Short Black, for instance, has provoked a complaint to the National Packaging Covenant Council from the Boomerang Alliance — a coalition of local government and environmental groups — for not abiding by the existing packaging covenant rules because it's excessively bulky and not truly recyclable.

For more information on green claims on your supermarket shelves, see *Supermarket Green Watch* on page 12. ■

In brief

New solarium rules in NSW

People with fair skin and those under 18 won't be allowed to use solariums



in NSW from January 2009. This follows similar regulations introduced in SA and Victoria earlier this year. Coin-operated sunbeds will also be banned.

Black cohosh linked to liver failure

Black cohosh, an over-the-counter herbal extract used to treat menopausal symptoms such as hot flushes, is marketed as an alternative to hormone replacement therapy. A report in the *Medical Journal of Australia* describes the case of a 51-year-old Adelaide woman who suffered severe liver damage after taking it intermittently for three years. Health experts recommend monitoring liver function before and during use of black cohosh.

Scrapping fine print on hidden fees

Consumers won't be faced with ads that feature an asterisk masking hidden fees, under new laws proposed by the Federal Government. To allow easier price comparison, businesses such as airlines and car dealers would be required to advertise the total price of their product or service, rather than prices in separate components. The change will relate to taxes, fees and levies, but not to financial services or postage and handling.

CORRECTIONS

HOME AND CONTENTS INSURANCE, APRIL 2008

In the table on pages 32–33, for the two policies REAL INSURANCE Essentials and REAL INSURANCE Top Cover, the cover for 'fusion (10-year-old motor)' should have been 'limited' instead of 'no cover'. This changes the scores for both policies to:

- Combined home and contents cover: 51%.
- Home cover: 42%.
- Contents cover: 60% for REAL INSURANCE Essentials and 61% for REAL INSURANCE Top Cover.

These changes still don't put the policies into our *What to buy list*.



STRAWBERRIES, FEBRUARY 2008

In the section *Over the limit* on page 15 we said, "Three of the strawberry samples contained pesticide residues at levels that exceed the MRL (maximum residue limit), or pesticides that the regulations don't allow on strawberries." In fact, one sample contained a pesticide residue above the MRL; another contained a pesticide that the regulations don't allow Australian growers to use on strawberries.

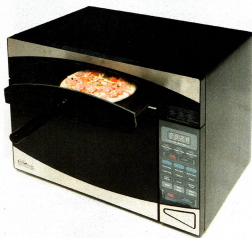
We also found a sample of strawberries grown in Victoria with a pesticide that, according to the manufacturer's label, is permitted on strawberries only in Queensland and WA. However, Victorian farmers are in fact allowed to largely ignore the label and spray crops 'off-label' with any pesticide that's not a Schedule 7 poison — provided that when the food's sold the pesticide level is below the MRL.

This is a classic example of differing regulations from state to state causing confusion. CHOICE wants to see consistent regulations for use of pesticides in all states.

+ MICROWAVE & PIZZA OVEN

Pizza to go

Don't have the space for an oven, but still want your pizza fix at home?



**DAEWOO 36 L Microwave Oven
12" Pizza Oven Combo KOD-135P**

Price \$349
Distributor Castel Electronics
Weight 19.8 kg
Contact www.daewooelectronics.com.au

When we tested the pizza section of the oven we hit a problem — the handle broke.

well, a broken handle is a high price to pay for one pizza. Daewoo told us it thinks the handle broke due to overtightened screws; we thought it might have become overheated.

We bought a second sample and retested it. Although the pizza compartment cooked both fresh and frozen pizza well and the handle didn't break, our tester still didn't feel confident using it. If you think the Pizza Oven Combo is for you, check out the handle in the shop before buying to make sure it feels comfortable for you.

Apart from the pizza tray handle incident, this product is easy to use. To avoid overheating the pizza tray and handle, we strongly recommend that the manufacturer's warnings be followed — make sure you don't switch on the grill compartment without food in it.

GOOD POINTS

- Excellent result for defrosting mince and chicken, cooking fresh pizza and broccoli.
- Good result cooking frozen pizza.
- Child lock.
- Controls are self-explanatory.
- Power-save mode.

BAD POINTS

- Poor result for reheating a non-stirrable dish.
- Poor visibility inside the microwave during cooking.
- Several internal holes where dirt and grease can accumulate.

CHOICE VERDICT

The DAEWOO Pizza Oven Combo is a great idea and mostly cooks well, though it would be nice to see some work done on the handle. ■

+ AUDIOBOOKS

Listen and learn with audiobooks

**Download websites to try**

audible.com, audiobooks.net
audiobooks.org, audiobooksforfree.com,
gutenberg.org, librivox.org

Talking books have been around for years on cassette tapes and CDs, but the modern digital version, called audiobooks, are far more than just an aid for the visually impaired.

The popularity of both MP3 players and online stores has started a new chapter in the evolution of learning. In as little as a few minutes you can find and download an audiobook and be listening to it on your MP3 player or PC. Prices vary greatly but some websites offer free audiobooks too (see above).

Audiobooks range from a few megabytes (MB) for a short story to hundreds of MB for a complete 'book'. Even so, MP3 players can store dozens or even hundreds of titles, giving you a personal audiobook library in your pocket.

Audiobooks may be unabridged or abridged; read by a narrator or dramatised; they can vary from just a few hours' listening to several days', and they leave your hands and eyes free for other tasks. Self-help titles on diet, languages and business are strong sellers, as are children's titles.

See the full story on audiobooks in the May/June 2008 issue of **CHOICE Computer**. To subscribe, call 1800 069 552 toll-free or go to choice.com.au/magazines. ■

+ SINGLE-CUP KETTLE

Quick cuppa is a hotshot for energy saving



Tefal Quick Cup BR303

Price \$130
 Distributor Groupe SEB
 Tank Capacity 1.5 L
 Contact www.tefal.com.au

The Quick Cup uses less than a fifth of the energy you'd use if you filled your kettle with a litre of water for a single cuppa.

These days many of us are time-poor and environment-aware; any help we get to speed up a chore and reduce our footprint is welcome.

The TEFAL Quick Cup aims to meet that goal, producing hot water for your tea or coffee in three seconds, and claims to use up to 65% less energy than a normal electric kettle. It also has a replaceable filter, so you can have a glass of room-temperature filtered water instead of a cup of hot water.

We compared the TEFAL Quick Cup with a conventional cordless kettle, to see how long it took to dispense 250 mL of hot water, and also checked its energy claims. It has a clear, removable 1.5 L tank at the rear that dispenses the water in adjustable amounts. We tend to overflow normal kettles (and have to on models that require a minimum fill), heating more water than we need and using more energy than required.

The Quick Cup met its claim of hot water within three seconds, but the stream of water is slow, so to fill a cup with 250 mL takes 34 seconds. A boiled kettle can be poured liberally, though it may take more than a minute to boil.

The Quick Cup is easy to use and met its claim of using "up to 65%" less energy than our electric kettle — it made a 45% saving when heating 250 mL of water. And when comparing that to someone who fills a kettle with a litre of water every time they want a single cuppa, the Quick Cup uses less than one fifth of the energy. (These results of course depend on the electric kettle used.)

Our first test sample had a nasty habit of splashing water around the cup, but TEFAL has addressed this with a new nozzle that solves the problem. If you buy a Quick Cup, make sure to check that it comes with the new nozzle (black plastic). If you already have one with an old nozzle (white plastic), call Groupe SEB on 02 9748 7944 to arrange for a replacement nozzle.

GOOD POINTS

- Only three seconds to start dispensing hot water.
- You can adjust the amount of water delivered, after which it shuts off automatically.
- Uses less energy than a normal electric kettle.
- Replaceable filter.
- Dispenses both hot and room-temperature water.

BAD POINTS

- While it meets the three-second claim to produce hot water, it takes 34 seconds to fill a cup.
- Costs \$15 every 50 L or six weeks for replacement filters.

CHOICE VERDICT

The TEFAL Quick Cup meets its most important claims of energy saving and delivering hot water in three seconds, but you'll need to be patient while pouring. ■

Coming

Combination microwave ovens

The combination of a microwave and a conventional oven with a grill has great appeal if you want to save space and energy but there are compromises. This CHOICE test looks at their cooking performance and how easy they are to use.

Baby slings

With a baby carrier or sling, you can keep your baby close and secure, which is great if they're upset and need to snuggle up. Slings also leave your hands free to do other things, but choosing the right carrier depends on body shape, both the parent's and the baby's. We assessed the popular brands to see which are the most comfortable, secure and easy to use.



Steam irons

You can pay \$10–\$160 for a new steam iron and, as you'd expect, they come with a range of different features — some that are essential, some that are useful to some people and others that left our trialists less than impressed. Our experienced ironers decided you don't have to pay big money to get good results on lightweight, synthetic and heavy material.



Write or email — we want to hear from you.

Your experiences help our research and often let other readers know about scams and rip-offs. Positive outcomes you've had to a complaint you took to a manufacturer, retailer, importer or tradesperson interest us too. See opposite for how to contact us.

Real vs virtual advice



■ Your recent article on GPS units prompts me to tell of an experience of ours. We live on a steep dirt road on

the fringe of Melbourne that was officially closed to vehicular traffic over five years ago and is currently used only by fire emergency vehicles and as access to our property. The road has gates at either end with multiple signs clearly stating 'No Through Road'. However, we're regularly visited by drivers who are either following instructions on their GPS units, or information from a website that says the road is open.

Over the last two years I've made many attempts to inform the appropriate website and map supplier of their errors, but corrections, I'm told, take considerable time to implement. We hope the occasion doesn't arise when emergency access to our property isn't possible because of a stranded motorist trying to follow GPS directions.

We continue to be amazed how willing drivers are to believe information on a computer screen while ignoring 'real' signs and physical barriers that tell them otherwise.

Kevin, Victoria

Consumers are well protected

■ Contrary to your March 2008 article *Tougher laws needed for complementary medicine* (Consumer News, page 5), the Complementary Healthcare Council (CHC) believes consumers are well protected by existing regulations in their right to access safe, efficacious and quality medicines.

These regulations were exhaustively reviewed by a government-appointed expert committee consisting largely of medical professionals, and recommendations for improvement published in 2005 have largely been implemented.

CHC takes issue with your article on two fronts. First, the CHC position is that companies with listed complementary medicines must always be able to substantiate all claims made for those products by holding appropriate evidence. Second, the article states that all registered products are tested for efficacy prior to sale, when this is not the case. For example, any new paracetamol product would not be required to undergo a full safety or efficacy evaluation. The evaluation would be based on existing available information in pharmacopoeias and other sources.

The CHC is committed to ensuring that consumers are protected and supports substantial penalties for companies that make advertising claims in the absence of supporting evidence.

Quality information for consumers and ensuring consumers have the skills to interpret medicine information they receive are paramount, and the CHC is actively engaged in initiatives to achieve this. Consumers can contact www.chc.org.au for further information about listed and registered complementary medicines.

Dr Tony Lewis, Executive Director, CHC

CHOICE says For more discussion on this topic, see Campaigns on page 65 of the April 2008 issue of CHOICE.

Blend or spread?

I have noticed the increased frequency of 'spreads' or 'blends' instead of margarine or butter available in supermarkets. I know margarine is associated with health problems but don't know if a 'spread' is any better. I would like it if you could clarify what is the best/healthiest to use on sandwiches and what exactly a 'spread' or 'blend' is.

Nikki Moore

CHOICE says Essentially, the reason there are more spreads and blends is that there are very strict definitions for what can be called 'butter' or 'margarine'. Butter has to contain a minimum of 80% milk fat and margarine a minimum of 80% edible oil (plant or animal).

Given that we're encouraged to limit the amount of fats and oils we eat, food manufacturers have produced a range of butter and margarine substitutes with a lower fat content, but this means they don't meet the official definition for 'butter' and 'margarine'. 'Blends' tend to refer to those products containing some milk fat, while 'spreads' often refer to oil-based spreads. Spreads can also be used as generic term that encompasses anything from butter to margarine and everything in between.

If you're trying to limit your fat intake, spreads or blends are better options than butter and margarine. But which is best for taste is up to you.

How much is it?

■ Browsing around the cosmetics counter in the David Jones Miranda store (NSW) one morning, I noticed that no prices were shown for the majority of products.

When I queried this with a staff member I was informed that this was DJ's pricing policy and that everything had to be scanned by the staff.

I like to be able to compare prices and know exactly what I'm to be charged as I browse and I can't do this if I have to wait for a busy staff member to scan everything in which I may be interested.

I really got so fed up that I left the store and proceeded to Myer, where I made my purchases, as prices were clearly shown. I might add that in view of DJ's pricing policy I won't be shopping there in future — Myer will now have my business as it's much more customer-friendly in this regard.

Annie, NSW

CHOICE says David Jones' customer relations staff told us (and Annie) that "dedicated beauty advisers" assist customers with premium-brand products that aren't on open display, and they aim to provide price tags for all general cosmetics on the shelves, but this may be lacking "on rare occasions" when prices need updating.

Thumbs up!

■ Mike would like to give a Thumbs up to Sampford IXL. When he was cleaning his IXL Tastic bathroom exhaust fan/heater, the cover fell and broke. He emailed the company, asking where he could buy a replacement, and received an email in return informing him that a replacement was being sent to him, free of charge.

■ When Anne had a problem with her Guardian paper shredder, the post office she bought it from wouldn't allow her to return it, as she'd lost her receipt. She then emailed the manufacturer Pelican Artline, which contacted the Australia Post shop and arranged a replacement model for her.

■ Jillian offers her Thumbs up to Nutricia, maker of Karicare baby formula. When all the stores in her country town ran out of Karicare HA AR formula, she contacted the company, which posted out one can a week to Jillian, free, until new stocks were available in her area.

■ When Michael's Belkin surge protector/battery pack developed a fault after two years he called Belkin, which told him that a replacement model would be sent out that day. He was pleasantly surprised when it arrived two days later to find it was a newer model than his previous one.

Address your letters to **Thumbs up!** at the address on the right.

LETTER OF THE MONTH

Using greywater from your washer

■ This is our experience of connecting our washing machine by hose to water our garden and lawn.

We purchased a large hose, as our local hardware store had advised a narrow hose would put too much back pressure on the washing machine's pump. We chose our washing powder on the basis of low or no salt and low phosphorus, and soon had a regular flow of water out over our thirsty lawn, and the ability to deep-water our young trees.

But then I noticed my washing machine was losing water during a 'wash and soak' program and failed to hold clothes in deep water on the drip-dry setting at the end of a cycle. It cost me an \$80 service call from Fisher & Paykel to find that my greywater hose system was the problem.

The serviceman demonstrated that the hose was siphoning water out of the machine. Of more concern was his statement that Fisher & Paykel isn't happy about the strain placed on the machine's pump when pushing this large volume of water along the hose. The serviceman added that other people have burnt out their washing machine's pump by linking the machine to this type of greywater hose system, even though the attached hose was larger than what we were advised.

Needless to say, we've disconnected the greywater hose and think you should be warning people about possibly damaging their washing machines by connecting greywater hoses directly to their machines.

Julie, Victoria

CHOICE says Fisher & Paykel confirmed that Julie's experience is becoming increasingly common. Consumers are looking for simple ways to reuse greywater, but unfortunately it's not always as simple as connecting an alternative drain hose to your washing machine. You must ensure you're not creating the siphoning problems Julie experienced, perhaps by installing a small valve to allow air back into the pipe, or by draining the contents to a tub or sink before it's directed into the garden.

Your best option is to have the hose installed by a qualified plumber, who should also ensure you're not overloading the washing machine's drain pump due to incorrect connection to the greywater system. See our article in the February 2008 issue for more on greywater diversion devices. There are also some interesting comments on www.greenfoot.com.au (type 'greywater system' in the search box).

To thank you for taking the time to write to us, CHOICE awards a prize of a CHOICE book to the 'Letter of the month'. This month's winner receives *The Australian Green Consumer Guide*, or any other book of her choice from the list on choice.com.au/books. We're sorry we don't have the resources to answer all your letters personally, and in the magazine we may edit them or print only an extract.



PHOTO COURTESY OF JULIE



Email ausconsumer@choice.com.au or mail to: Letters, CHOICE, 57 Carrington Road, Marrickville 2204

Supermarket Green Watch

Supermarket items make all sorts of green claims — sustainable, natural, recycled, biodegradable — should you trust them?



nutshell

► Many green claims are neither supported by evidence nor well explained, but the good news is there are some reliable green labelling programs. By using our tips you can start to sort the true green claims from the greenwash.

► When a product has one green claim, it's usually got a few. Our investigation of non-food supermarket products with green claims found 637 claims on 185 items — an average of over three claims each.

The packet of Glad Tuff Stuff garbage bags (below left) claims, "When properly incinerated, polyethylene breaks down to carbon dioxide and water vapour." But what about the rubbish you put in the bag?

Shower Power (below right) claims it "meets or exceeds Australian Standard AS1792/1976 for biodegradability". But that Australian standard was withdrawn in 1998. We were told by its makers in January that Shower Power had just been certified to the new standard, and was rolling out new labels. But in April at the time of writing, we still found products on the shelves referring to the old standard, and the website hadn't been updated.



Claiming the earth

Greenwash is deceptive marketing designed to portray a company or product as caring for the environment. CHOICE is campaigning to make sure green claims are honest and useful, because consumers should be able to sort the true green products from the greenwashed.

Green claims are about environmental sustainability, recycling, energy and water efficiency, or impacts on animals and the natural environment. They can be self-declared statements, symbols and graphics on product packages and labels.

Have I been greenwashed?

The trick with green 'spin' is that you can't tell you've been duped. On the other hand, you might even suspect something's wrong, when in fact it's legitimate. We need better regulation of green claims, but here's what you can do to minimise your risk of being greenwashed.

? No distractions Think about the impact of the product itself; it's great if the packet is recyclable or biodegradable, but it's not the main point. Ignore green pictures and unofficial logos.

! Specific and precise Look for precise claims that explain and give evidence. For example, high percentages and guaranteed minimums of post-consumer recycled content.

? Full ingredients Listing of all ingredients in plain English, not just the active ingredients required by law. Plain English is missing from the ingredients labelling of many cleaners and personal care products.

! Whole lifecycle Look for evidence that the whole life of the product is handled with care, not just one part of it. Emphasis on one technical aspect (such as 'biodegradable') might be masking a poor environmental performance in other areas.

? Third-party certified To relevant Australian or ISO (International Standards Organisation) standards or other recognised schemes. But beware: certification to ISO14001 is about ongoing improvement to the company's environmental management processes; it doesn't guarantee the product has a low environmental impact.

! Helpful contact info No robust evidence of the green claim on the pack and no easy way to get it when you get home? Don't support a manufacturer that doesn't want you to find out more about them.

A lot of products are emblazoned with images of the globe, pictures of foliage, official-looking environmental icons, and names like eco, natural, planet, green and enviro. Other green claims are on the rear label, or stamped onto the packet.

Even if you search for the softest loo paper rather than the greenest, and only glance at the green claims or read them once you're home, their presence could make you feel that bit more satisfied with your purchase and likely to buy it again.

Green claims are subject to the Trade Practices Act, and the Australian Competition and Consumer Commission (ACCC) can take action against dodgy claims. Australia also has a voluntary standard for green claims, AS14021, which is designed to foster consumer confidence.

So can you trust the claims?

CHOICE Green Watch finds

CHOICE did a green claims investigation at some representative supermarkets. Our Green Watch team picked up and read the labels on non-food items in three stores from different chains in Sydney in January and March 2008. Included were items such as A4 paper, plastic bags, laundry detergents, surface cleaners, insect sprays and toilet paper. We didn't look at food — CHOICE deals with the ins and outs of claims such as 'organic' and 'free-range' in other articles.

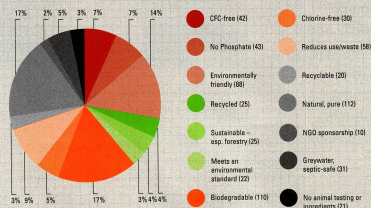
On 185 items that had green claims, we found 637 claims — that's an average of more than three each. Some of these repeated the same or a similar claim, for example on the front and back.

There are a lot of green claims in the cleaning aisle of the supermarket, on things like laundry detergents and cleaning sprays. We found one all-purpose cleaning spray with 19 claims — the most on a single item. We didn't spot many green claims beyond 'natural' and 'pure' on personal care products such as shampoo. Yet in the toilet paper aisle, it's hard to find items without green claims.

So are these green claims any good? North American marketing firm TerraChoice has defined 'six sins' of greenwashing: vagueness, no proof, fibbing, hiding environmental tradeoffs, simply being the lesser of two evils, and irrelevance. We weren't able to check every claim. But unfortunately, it's easy to spot Australian examples of each of these six sins.

The claims we saw frequently are discussed in detail in the following sections, which cover those six sins.

14 types of green claim in your supermarket



What are the six sins of greenwash?

1 Vagueness

- 'Environmentally friendly'
- 'Natural, pure'
- 'Renewable'
- 'Recycled'

As well as these frequent claims, it's pretty obscure to claim any of the following without any evidence as to why: eco, earth, enviro care, save the environment, greener or plant-based. And claiming 'chemical-free' is plain silly when even water is a chemical.

Treat with caution claims that are vague and don't have supporting information. Some more examples: '100% natural based actives'; 'we take our environment seriously'. More useful, specific claims might contain reliable information on how much of the product is made from renewable ingredients and evidence that they're harvested sustainably.

'Up to 40% recycled plastic'; 'where possible recycled paper is used'. Claims like these might sound great, but don't guarantee there's any recycled content.

'All manufacturing paper is reclaimed and recycled'. Great that the maker is reducing waste, but the paper is still being used for the first time. At least this one's specific enough for you to spot the truth: some products just claim 'recycled' without specifying the source. Making use of 'pre-consumer' offcuts from the manufacturing process is different from 'post-consumer' recycling, which finds new uses for used materials. >

Greenwash is any deceptive marketing designed to portray a company or product as caring for the environment.

TAKE ACTION!

Dab in a dodgy green claim at the CHOICE Green Watch campaign at www.choice.com.au/greenwatch.

Don't rely on vague claims. Businesses should clearly and accurately explain why their products are greener.



< Even when a claim looks specific and accurate, it can be misleading if it's easy to get the wrong first impression:

'30% recycled' Is that fabric softener above really 30% recycled? With the green and gold logo, you could easily think so. But this only relates to the carton, not the product's ingredients.

'Reduces material waste, chemical waste, water or energy use' What is the amount saved? Compared to what?

In summary, don't rely on vague claims. Businesses should clearly and accurately explain why their products are greener than other similar products.

2 No proof

'No animal testing or ingredients'

'Sustainable forestry'

Claims that have no evidence that's easily available are committing a greenwash sin too.

Animal testing statements don't have to be certified, and some give little or no detail of what they really mean.

'Product not tested on animals' sounds helpful, but individual ingredients in the product might still have been tested on animals.

'Sustainable' is a big claim. It deserves information and detail about the reasons for the claim, otherwise it's too vague. For a practice to be sustainable it has to be able to be sustained indefinitely. Doing well on one environmental impact doesn't make a product sustainable. In fact, 'sustainable' doesn't satisfy ASI4021 for environmental claims.

This claim is seen most often on paper products in relation to forestry management:

'Our fibre supplies are from plantations and sustainably managed forests that meet appropriate forestry codes' is one tissue pack's claim. Another claims **'Only uses suppliers who conform to high environmental standards'**.

Without specific information — evidence about what forestry codes and standards are met, or what 'not tested on animals' means — it's hard to believe such claims.

3 Fibs and false impressions

'Certified environmental claim'

'Good environmental management'

It's illegal for a business to make a false representation about the standard, quality, value, composition or history of a product. Environmental claims should relate to real environmental benefits, and shouldn't overstate them. For example, they mustn't claim to be certified when they're not. In the TerraChoice study mentioned earlier, while outright lying wasn't very common (1% of claims), false claims of certification were the most frequent fibs seen. It includes certification to out-of-date standards or made-up certification.

Here are some examples:

'Sustainable forest fibre' Woolworths has been under fire from unions and environmental groups for its claim of "sustainable forest fibre" on its Select range of paper products (napkins, toilet paper and kitchen towels). This is a claim of exemplary environmental performance, and evidence available to the consumer is an official-looking logo and environmental management system (ISO14001) certification. Yet this particular certification is about ongoing improvements to the management process, rather than guaranteeing a high level of environmental performance or sustainable forestry.

Even after a thorough investigation, the ACCC couldn't form a conclusive view about the Select claims. The remedy, to place stickers over the claims and eventually remove them altogether, might be a belated win for honesty in marketing, but not the environment. **'Recyclable'** and the triangle of arrows can be misleading if facilities don't exist to do the recycling. Plastics marked as recyclable with a '4' or higher in the middle of the arrows aren't recyclable in some areas because the facilities aren't there.

Some products claim to be recyclable, but have so many different materials in them that they won't be. One brand of razors would contaminate the recycling process if the inserts, decoration and moulded plastic stand were left inside the packet. And a new laundry liquid bottle, although smaller, might be less recyclable than the old one because it's now got three different types of plastic.

For a product implying it's greener than others in some way, the basis for the comparison should be explained.



4 Hidden tradeoffs

'Biodegradable or degradable'

Green claims about single environmental issues might be technically correct, but are a tradeoff for not telling the full or important bits of the story.

'Degradable' This term is seen on some plastic bags. There's a difference between this, which means a product simply breaks into smaller pieces, and biodegradable, where living organisms can decompose it. **'Biodegradable'** can be misleading if the product takes a very long time to biodegrade or requires quite specific conditions. What's more, the claim may not be of any real benefit to the environment, if the breakdown process proves toxic.

Look for 'readily biodegradable'; but be aware that the Australian standard for surfactants (soap agents in cleaning products), AS4351, doesn't require the entire product to degrade, just the soapy bit, which is only a small part of the product. Nor is the standard concerned about the safety of by-products when it does degrade.



4 6



5 Lesser of two evils

'Chlorine-free'

'Reduces use or waste' (also see *Vagueness*, page 13).

For a product implying it's greener than some other products in some way, the basis for the comparison really should be explained. These claims can sometimes be talking about the lesser of two evils, when there's a third, even greener option available. For example:

'Elemental chlorine free' (sometimes written as ECF) is seen on things like paper products and nappies. It's better for the environment than regular chlorine bleaching, but it's really the lesser of two evils, because chlorine is still involved. There are products on the market that claim instead to be 'totally chlorine free' (written as TCF) or 'unbleached'.

6 Irrelevance

'CFC-free'

'Links with environmental causes'

There are plenty of green icons and official-looking logos (see above left) that are made up and irrelevant. There are also products that sponsor or make donations to environment-related causes like zoos and drought relief. Some of these connections are weak, so don't let them exploit your concern for the environment.

'Made from a renewable forest resource' Claims like this, which we found on toilet paper, don't help you decide which is the greenest toilet paper — all plants and trees are renewable. It'd also probably be too vague to meet the standard for environmental claims. Toilet paper was also rife with the indisputable but pointless claim of **'biodegradable paper'**.

'CFC-free' CFCs in aerosol spray cans were banned nearly 20 years ago, so claiming "CFC-free" is irrelevant. Our investigation still found CFC-free or something similar written on most aerosol products. One company still wants kudos for stopping CFC use in 1976. We think it'd be more relevant to explain how they're improving their environmental performance nowadays. >

1 WINNER! GREENWASH ARMS RACE

Manufacturers are arming their products with more and more green claims, to differentiate them from others. Our investigation found an average of five green claims on each pack of toilet paper. Some even had eight or nine claims. Toilet paper has the dubious honour of winning the greenwash arms race — consumers beware.



The market is failing to provide consumers with reliable information about which products are genuinely greener in their impact.

< **‘Ozone friendly’** The removal of CFCs as a propellant doesn’t mean the entire threat to the ozone layer has been removed, just reduced. Given this, common claims that a product is **‘ozone friendly’**, **‘ozone safe’** and **‘it’s okay to spray’** seem to us to be exaggerated. We saw an “it’s okay to spray” logo a lot. On Mortein Energy Ball Fly Killer, it even appears next to a statement and logo saying the spray is very toxic to aquatic life.

‘Biodegradable’ All detergents have to meet the Australian standard for biodegradability, so the claim is irrelevant unless the product can demonstrate it goes beyond the requirements. (See *Hidden tradeoffs*, page 15, for more on this.)

Then there’s the downright silly: how important is it for **‘biodegradable carton’** to be written three times on Ambi Pur’s air freshener packet, when the product itself could contain irritants, has many other components and uses electricity throughout its life? ■

CHOICE verdict

Greenwash is out of control on supermarket shelves. We investigated this back in 1996, and it’s much worse now. The range of claims has grown and many are unsubstantiated. Others are irrelevant, only a small part of the story, or downright lies.

The market is failing to provide consumers who want to go green with reliable information about which products have a lower environmental impact. It doesn’t have to be this way. A system that could fix the problem is within reach.

First, we need to see companies complying with the Australian Standard on Green Claims (AS 14021). At present this standard is voluntary, and therefore widely ignored. As a matter of urgency the standard should be made mandatory for the product categories that CHOICE’s Green Watch found to be worst for greenwash — paper/tissue products and household cleaners.

Supermarkets should get their own house in order. All green claims for supermarket ‘own brand’ products should comply with the Australian standard and be certified against reliable benchmarks. Industry associations that cover companies supplying goods to consumers should make adherence to the Australian standard a requirement for their members.

The ACCC, which recently released a useful guide to green marketing claims, should now target the area of green claims for additional enforcement action.

And the Australian standard itself needs updating to reflect current environmental issues, such as greywater use and carbon neutrality.



LABELS WITH MORE WEIGHT

The following claims or logos on products are properly accredited and you can rely on them.

No animal testing or ingredients

Choose Cruelty Free (CCF) accreditation

CCF is a not-for-profit organisation run by volunteers. They survey and accredit companies that claim their products and ingredients aren’t tested on animals.

CCF’s Preferred Products List is available free online or as a booklet:

www.choosecrueltyfree.org.au.



Multi-criteria claims

Good Environmental

Choice Australia

A not-for-profit organisation that checks products meet its voluntary environmental standards for the whole product lifecycle: www.geca.com.au.



Sustainable forestry

Forest Stewardship Council (FSC)

An international not-for-profit organisation that encourages and recognises forest management that’s environmentally, socially and economically responsible: www.fsc.org.



No phosphate

No (added) phosphate (NP)

This is a voluntary industry standard; some packaging uses a logo, on others the letters are simply written.



Recyclable

Plastics Identification Code

This is a voluntary industry program. You can be confident items marked 1, 2 or 3 can be recycled. Ask your local council which others are recyclable in your area.



Water saving

Smart Approved WaterMark

A not-for-profit voluntary program that assesses and endorses products that help reduce water use outside your home: www.smartwatermark.org.



Hot stuff!

Hot chocolate has had a makeover — no longer just a bedtime soporific, it now promises all manner of sensual delights. To help separate the delicious from the dreary, we called on CHOICE's enthusiastic army of Home Testers.



nutshell

► The brands our Home Testers liked best have plenty of sugar and kilojoules — and you make them up with milk.
► 'Diet' versions with artificial sweeteners and made up with water instead of milk weren't rated as highly.

Montezuma, the 16th century ruler of the Aztec empire, is said to have fortified himself by drinking chocolate before visiting his harem. And, according to recent research, chocolate causes a more intense and longer-lasting buzz than kissing. On the shelves in your local supermarket you'll find brands of hot chocolate such as INDULGE YOUR SENSES with hot lips on the label and NESTLÉ Double Blend, whose label seductively suggests:



"You know you want me. You want to hold me. You want to have me to yourself..."

So who'd have thought that hot chocolate was once a temperance beverage promoted by Quakers John Cadbury and Joseph Rowntree for religious and humanitarian reasons?

Whatever the motivation, most of us enjoy hot chocolate, so CHOICE decided to find out which brand tastes best.

Chocolate time

CHOICE's Home Testers rated 18 widely available brands of hot chocolate. We included both diet and regular brands, but not white chocolate, flavoured chocolate drinks or energy drinks. This is why some old favourites, such as MILO and AKTA-VITE, didn't make the list.

The Home Testers found three brands especially delicious — INDULGE YOUR SENSES Milk Drinking Chocolate, VITTORIA Original Chocochino Italian Style and NESTLÉ Heaven Milk Chocolate (see *What to buy*, page 18). They described them as 'milky', 'creamy' and tasting of 'real chocolate'. Not surprisingly, the top-scoring hot chocolate drinks were those you make up with milk, not water, and they were sweetened with plenty of sugar rather than artificial sweeteners.

WEIGHTWATCHERS and JARRAH Chocolate Extreme Choc Flavour were the least liked — you make up both with water and they're artificially sweetened. The trialists described the JARRAH Chocolate Extreme Choc Flavour as 'artificial' and 'sickly', and the WEIGHTWATCHERS Drinking Chocolate was 'bland', 'weak', 'thin' and 'watery'.

So, the tastiest hot chocolate drinks are a wonderful treat, but they're not a great regular bedtime drink if you want to lose weight. >

Who'd have thought that hot chocolate was once a temperance drink promoted for religious reasons?

What to buy



INDULGE YOUR SENSES MILK DRINKING CHOCOLATE

Price 22 cents per serve

Trialist comments

"A nice taste. Nothing sickly or overly sweet or bitter about it. Easy to make. Mixes well."

"I really enjoyed this hot chocolate."

"Smooth. Nice flavour."



VITTORIA ORIGINAL CHOCOCHINO ITALIAN STYLE DRINKING CHOCOLATE

Price 23 cents per serve

Trialist comments

"Creamy and smooth to the palate."

The smell when putting your mouth up to the cup was wonderful."

"Rich chocolatey taste."

"Very nice flavour, no bad aftertaste."



NESTLÉ HEAVEN MILK CHOCOLATE

Price 75 cents per serve

Trialist comments

"Nice sweet, chocolate flavour with smooth texture."

"Enjoyable. I liked the creamy consistency, but it took longer to make."

"It was fun mixing the choc bits."

HOW WE TESTED

221 CHOICE Home Testers who regularly drink hot chocolate each tried four brands — thank you for your help and we hope you enjoyed it. The hot chocolate was repacked in small containers (pictured below) identified only by code, so the trialists wouldn't be influenced by brand, price or packaging. They made the hot chocolate drinks with milk or water according to the manufacturer's instructions, then rated them for taste, consistency and ease of use, and gave them an overall score. Each brand was tried by about 45 people.



PHOTOGRAPHY: GENE RUSS

FAIRTRADE HOT CHOCOLATE



Guarantees
a **better deal**
for Third World
Producers

Roughly two thirds of the world's cocoa comes from West Africa, mostly produced by small

farmers. But manufacturing and distribution are dominated by a small number of big corporations. The farmers get only a small proportion of the price you pay for hot chocolate in the supermarket, and the price they're paid fluctuates wildly. When the price falls farmers are forced to cut costs, often employing children for strenuous and dangerous work, sometimes as slave labour.

The Fairtrade movement tries to get a better deal for farmers, and Fairtrade certification on the label means the cocoa hasn't been produced using slave labour, and growers and producers are paid a fair wage.

Unfortunately there weren't any widely available brands of Fairtrade drinking chocolate when we were testing. You can, however, buy it from Oxfam shops or via its website. Alternatively, you can stir some grated Fairtrade chocolate into hot milk. Delicious!

< The best-liked of the lower-kilojoule hot chocolates was JARRAH Milk Belgian Chocolate, with 275 kilojoules per serve (compared with 1077 kJ for NESTLÉ Heaven). But a cup of instant coffee with a little milk gives you only 140 kilojoules — less than any brand except WEIGHTWATCHERS — or you could have a cup of herb tea, such as chamomile, with almost no kilojoules at all.

Double, double, toil and trouble

Despite its overall popularity with our Home Testers, NESTLÉ Heaven stood out as the most difficult of the drinking chocolates to make. With other brands you only have to zap your mug of milk in the microwave and stir in the chocolate powder. But NESTLÉ Heaven consists of chocolate drops that you melt in a small amount of hot milk (which takes some vigorous stirring), then top up with more hot milk.

ABUNDANT EARTH must think your kitchen is a science lab with precision measuring devices. The instructions are to mix 14 g with "170 mL of hot (not boiling) milk". At the other extreme, some brands come with each serving in an individual sachet, which you tip into a mug of hot water or milk. While this is easy to do, it's wasteful packaging and makes it awkward to adjust the quantity to suit your taste.

Sleep, sleep, happy sleep

Some of our Home Testers said they drink hot chocolate to avoid caffeine or because it helps them sleep.

Chocolate contains some caffeine but not as much as coffee, tea and energy drinks. A cup of hot chocolate gives you no more than about 10 mg of caffeine, compared with up to 90 mg in a shot of espresso coffee, 80 mg in a can of energy drink or up to 50 mg in a cup of tea. Unless you're especially sensitive to caffeine, the small amount in hot chocolate is unlikely to keep you awake.

And a mug of hot chocolate also gives you about 50 mg of theobromine, a chemical compound that's first cousin to caffeine. It's not as powerful a stimulant, but it's a mood-enhancing drug that may contribute to our liking for chocolate. ■

Chocolate contains a mood-enhancing chemical, which may well contribute to our liking for it.

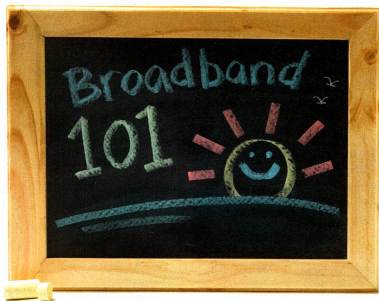
USING THE TABLE

Energy per serve We've shown the energy per serve as stated on the label. When made with milk we've added the energy for one cup (250 mL) of skim milk. If you use whole milk there'll be even more kilojoules in it.

Sugar per serve Based on the nutrition information given on the label. It doesn't include any additional sugar (lactose) from the milk.

Price per serve Based on prices we paid in Sydney supermarkets in November 2007, and the number of serves stated on the label.

PRODUCT	SCORES	FEATURES		NUTRIENTS PER SERVE			PRICE
		Separate sachets?	Add to water or milk?	Energy (kJ)	Sugar (tspn)	Artificial sweeteners	
Brand / product (in rank order)	Overall score (%)						Price per serve (cents)
Indulge Your Senses Milk Drinking Chocolate	73		Milk	609	3	None	22
Vittoria Original Chocochino	72		Milk	694	4	None	23
Nestlé Heaven Milk Chocolate	70		Milk	1077	4	None	75
Cadbury Drinking Chocolate	68		Milk	629	3	None	16
Funtime Milk Flavouring Chocolate	66		Milk	577	2.5	None	7
Dick Smith's OzeChoc	64		Milk	625	3.5	None	14
Jarrah Milk Belgian Chocolate	64	✓	Water	275	1.5	Aspartame	67
Nestlé Alpen Blend	64		Milk	617	2.5	None	17
Home Brand Drinking Chocolate	63		Milk	603	3	None	10
While's Shots Chocolate	63		Water	317	3	Acesulphame potassium	30
Jarrah Chocolate	62		Water	180	1	Aspartame	39
Nestlé Double Blend Chocolate	62	✓	Water	330	2.5	Acesulphame potassium, aspartame	47
Jarrah Choc o'Lait	61	✓	Water	175	1	Aspartame	46
Cadbury Highlights Intensely Chocolate	60	✓	Water	322	2	Acesulphame potassium, aspartame	48
Nestlé Nesquik Chocolate	60		Milk	577	2.5	None	11
Abundant Earth Organic Hot Chocolate	57		Milk	589	2.5	None	31
Jarrah Chocolate Extreme Choc Flavour	51	✓	Water	255	1	Aspartame	46
WeightWatchers Drinking Chocolate	47		Water	88	0.5	Aspartame	23



Broadening your internet horizons

CHOICE's guide to broadband cuts through the confusion so you can understand what's being offered and choose a plan that suits your needs.

nutshell

► It's important to try to estimate your potential data usage before you commit yourself to a long-term plan.

► Broadband prices are usually calculated on data use, rather than time online.

► Customer service is an important factor and the big players don't always get it right.

► Contracts can be complicated. It's worth reading the fine print to make sure you don't end up locked into an outdated service.

Broadband is a high-speed connection to the internet. It's called 'broad' because it allows a large amount of data to flow between you and the outside world, which means things happen faster than with a dial-up connection. This makes it possible to use your internet connection for data-intensive things such as watching video, and it reduces the delay in loading pages.

A full list of broadband providers is available from www.tio.com.au, and there are six different types of broadband connection (see opposite).

Choosing the best plan for you

Your location will influence the amount of choice you have when deciding which type of broadband connection you want. If you're in a remote area, satellite may be your only option, but even in a major town you could be limited to the slower ADSL speeds if your local telephone exchange hasn't been upgraded to handle ADSL2 or 2+.

Broadband is sold by internet service providers (ISP) in plans, which usually give you a certain capacity per month and lock you into a contract price and period. They're difficult to compare because they often include other things such as fixed line or mobile phone usage and pay TV. The following features relate to the broadband part only.

Speed — in a second

ISPs will use their theoretical maximum speeds as an advertising lure, but consider it in the context of how you normally use the internet at home.

If you're mainly into email and occasional web browsing, a slower speed is probably fine. As you increase the frequency and size of the data you download, a faster speed becomes more convenient.

Broadband speed is measured by the number of bits of data that flow up and down between your computer and the internet in a second. The number can be very large, so it's common to refer to them as kilobits or megabits per second (see *Jargon buster*, page 23, for more). Sending data is often significantly slower than receiving. If you regularly send large files (image files, for instance) this may be an issue, but for many it's a minor inconvenience.

Prepaid usage plans

The plans not only limit the speed at which data comes and goes, but also how much data you're allowed per month. These data limits are measured in megabytes or gigabytes (see *Jargon buster* for the difference between bits and bytes). You need to carefully consider these limits because some plans carry severe penalties for downloading more than your allocation. These penalties are usually up to about 15 cents per megabyte. This may not look like much, but a five-minute movie trailer can be about 30 megabytes. Add a few program updates, maybe some music, and things can get quite expensive.

Many plans offer an alternative system called 'shaping'. With these plans, reaching your limit doesn't incur a financial penalty. Instead, downloading and uploading speeds return to something similar to a dial-up connection. This is a much safer option if you're unsure how many megabytes you'll need.

Some ISPs count both sending and receiving when calculating usage, but most only measure downloads from the internet to your computer. Obviously, the latter is a better deal at equivalent overall cost and speed.

In some plans the size of emails is limited and they may only be stored for a set period. If you send or receive big files (such as images), check these limits. >

The six different types of broadband

ADSL

Asymmetric Digital Subscriber Line uses your phone line, but can manage much higher speeds than a dial-up connection.

It's 'always on', which means the modem remains connected even when your computer is turned off.

You can still make telephone calls while the modem is connected because the frequency the modem uses to transmit data is well above anything you can hear. However, you'll need filters on each phone to make sure there's no interruption to the data flow and you don't get audible interference. The modem and filters are usually supplied by the internet service provider (ISP) when you sign up.

Connection speeds vary, depending on your plan and also on the vagaries of the internet, but sending data (uploading) is always much slower than receiving it (downloading), which is why it's called asymmetric.

You have to be within a certain distance of your telephone exchange for ADSL to work. It's best to check with an ADSL provider to see if it's available in your street.

ADSL2 and 2+

These are faster versions of ADSL that should work at greater distances from the telephone exchange. At the moment 2+ is the fastest of this form of broadband connection, but as the speed increases the price often follows.

Naked DSL

This is ADSL without paying line rental for your fixed phone line. It

might save you money, but you won't have a fixed line for making phone calls. You have to rely on your mobile phone or use a VoIP service (see *Jargon buster*, page 23, for an explanation of VoIP).

Cable

Optus or Telstra are the main suppliers of cable, which requires the same connection as that used for pay TV. Consequently it's only available in specific areas. It's as fast as or faster than ADSL2+ and, like ADSL, is usually much faster to download than upload. Speeds vary depending on how many people are using the system in your area.

The cable connection is via a modem but is separate from your telephone, so there's no interference and it's always on.

Wireless

As the name suggests, there's no connection of your computer to a cable or phone line. The modem connects to a wireless network in the area via an inbuilt antenna. This means you can place your computer and modem anywhere within the network coverage, which dramatically increases your mobility if you have a laptop computer.

Claimed maximum speeds vary from roughly comparable with ADSL2 well below, but wireless is susceptible to interference from all sorts of devices, from power lines and substations to microwaves and some cordless phones. Any of these can reduce the speed of your connection or cause it to drop out altogether, depending on prevailing conditions.

Claims of mobility can be overstated. Taking the laptop out into the garden may be OK, but it's a lot less likely that you'll maintain a connection to the net while travelling from home to work. Most wireless networks have blind spots and, as mentioned above, interference is a problem.

Satellite

Satellite is expensive and relatively slow, but has the advantage of reaching remote areas where there's no other option. It requires a satellite dish, which needs to be installed professionally on the roof.

BROADBAND KNOWHOW

The more information you have, the better decisions you can make — and this is no less true of broadband.

- ISPs often provide an online tool that allows you to keep track of how many megabytes you have left.
- Some plans are called unlimited, but really mean you can have a large amount of data (usually more than 10 GB) before you're shaped (see left).
- Plans change often, so keep a close eye on what ISPs are offering. If a plan changes just after you've purchased it, you may be able to move to the new plan if it's to your advantage.

- VoIP can work out cheaper than a fixed-line telephone, but sometimes has lower sound quality or a delay. Also, if there's a power blackout you can't make 000 calls and will lose your phone connection. (See CHOICE, February 2008, for more on VoIP, or go to choiceextra.com.au and click on that issue under 'VoIP'.)
- If you're having trouble with an ISP, the Australian Communications and Media Authority (ACMA) has some helpful information on its website (www.acma.gov.au), or contact the Telecommunications Industry Ombudsman (TIO) at www.tio.com.au if you want to make a complaint.

Faster downloads with broadband mean most people use more data than they did on dial-up.

Setting up broadband

Check with your chosen broadband provider that your computer and its operating system are up to the job. If you're going to connect via cable, wireless or satellite a phone line isn't necessary for your internet. It is for all versions of ADSL.

Typically, an ISP charges a one-off setup fee that covers its costs in putting you on the system or transferring you from your existing ISP. A CD with automated setup software is usually supplied, but you're likely to need to modify some settings to suit your circumstances.

ADSL connections require a special modem and filters, which attach to an existing telephone connection on the wall — most ISPs will have a list of preferred models. You can usually buy these as part of the setup fee, but look around because they may be cheaper in your local computer or electronics shop. Installing both the modem and filters is just a matter of plugging them in the right way — your ISP should have clear instructions on how to do this yourself.

If you're connecting via wireless, you'll need a special wireless modem that the ISP provides, at a cost. It'll need power, but doesn't require a connection to the phone line. An alternative is a modem card that plugs into your computer's USB slot. This is useful for laptops and provides mobility, but reduces your computer's battery life.

Cable and satellite installations require a qualified tradesperson. The former uses the same cable as is used for pay TV and the latter has a satellite dish that has to be pointed at the satellite. Installation can be arranged through your ISP and costs vary depending on your location, as well as the length and nature of your plan.

Doing the numbers

Comparing broadband plans is complex, particularly if you bundle one with landline or mobile phone and pay TV.

The first thing is to determine how much you already spend on these services. Do this over a similar timeframe to the period of the contract you're considering. If you're currently on a dial-up internet account, work out your data usage over a typical month. If your ISP doesn't provide this information, the table below is a rough guide.

Most people will use more data with a broadband connection than a dial-up connection because there's less delay, so add about 50% to your calculation to compensate. Then choose a broadband plan that provides enough data (or preferably more) for your needs.

Bundled phone plans usually offer a discount on either the broadband or phone component. You'll find them on the ISP's website, but bundles that include pay TV are often only offered when you sign up or as part of a direct-marketing campaign. Take your time and check the real value of these bundles for your purposes. Compare the broadband component against your normal usage because they'll most likely have a lengthy contract period.

ACTIVITY	APPROXIMATE USAGE
Sending and receiving text email, small word-processing documents or text-based web pages	0.02 to 0.05 MB each
Sending and receiving still images	0.05 to 0.25 MB each (high-resolution images can be 3 MB or more)
Downloading a music file (about a four-minute MP3)	4 MB
Downloading a five-minute music video or movie trailer	30 MB

Source: Australian Communications and Media Authority

SELECTION OF LOW-COST PERSONAL BROADBAND PLANS (ADSL)

PRODUCT			FEATURES		COSTS			
Provider	Plan	Availability	Speed (Mbps download / upload)	Contract term (months)	GB included in plan	Minimum monthly charge (\$)	Setup cost (\$)	Cost for 12 months (\$)
G0talk	ADSL1 Light	ACT, NSW, Qld, SA, Vic, WA	512 / 125	12	9	29.95	0	359.40
Australia On Line	256K Fast 4GB	ACT, NSW, NT, Qld, SA, Vic, WA	256 / 64	12	4	29.95	49	408.40
Chariot Netconnect	NEW ADSL Communicate	ACT, NSW, NT, Qld, SA, Tas, Vic	256 / 64	6	1	29.95	59.95	419.35
TPG Internet	Light 256 / 6GB	ACT, NSW, NT, Qld, SA, Vic, WA	256 / 64	6	6	29.95	59.95	419.35

Source: phonechoice.com.au.

USING THE TABLE

The table provides some low-cost broadband plans based on the following scenario:

Type The ADSL broadband component is additional to costs for a fixed phone line, mobile phone and pay TV.

Speed Download speed is at least 256 kbps.

Capacity A minimum of 1 GB of data is included.

Penalties Any excess data usage results in the speed being 'shaped', rather than incurring a penalty rate.

Availability All are available in a metropolitan area, across the country.

Contract period Six to 12 months.



What to look for in longer contracts

Contracts Longer contracts should have a lower monthly charge, but take the time to check. The downside of a long contract is that you could miss out as technology improves. Other things to look for are:

Exit penalties If you decide to change ISPs before the contract term is up.

Changing your plan If you decide to upgrade or downgrade your plan with the same ISP within the contract period, are you up for additional costs?

Usage Ask how your usage is measured.

Your obligations when using the system — these are usually included in the contract under 'Acceptable use policy'.

ISP's obligations regarding helplines and faulty equipment, especially if the ISP retains ownership of the modem or other hardware. Some ISPs won't help if you're using equipment they haven't endorsed.

Bundling If your broadband is bundled with telephone or TV, check what happens to your broadband charges should you decide to vary the other parts of the plan.

Variations ISPs may retain the right to vary the plan during its course. If this happens you could be in a position to cancel the contract and avoid a high exit fee.

Cooling-off period Some contracts, usually from door-to-door sales, have a cooling-off period of a few days that allows you to cancel without penalty.

Home networks aren't supported under some contracts.

Home business Make sure the contract doesn't exclude multiple users or other activities that apply to your normal business activities.

Privacy All ISPs should have a privacy policy, which is worth looking over to ensure your information will be handled carefully.

Moving house can be complicated and some ISPs make it easier than others — you can get an idea of what's involved from the contract.

Jargonbuster @!?

Dial-up A low-speed internet connection that requires you to make a phone call to your ISP whenever you want to connect. This type of connection is often charged by time online rather than by the amount of data transferred. You can't make phone calls while connected to the internet.

Kilobit is a measure of data. Each kilobit equals 1000 bits. One kilobit transferred in a second is written as 1 kbps.

Megabit One megabit equals 1,000,000 bits and when transferred in a second is written as 1 Mbit/s or Mbps.

Megabyte (MB) is another measure of data. A megabyte has 1,048,567 bytes and each byte is made up of eight bits of data.

Gigabyte (GB) One GB equals 1,073,741,824 bytes.

Modem A device that allows you to connect your computer to the internet. Different types of modem are needed for ADSL, cable or wireless connections.

Shaped is where data transfer rates are reduced (usually to around dial-up speed) if you use more than your allocation of data in a month. The alternative is a penalty rate per MB, which can be very expensive.

USB, or universal serial bus, is a connection commonly found on computers.

VoIP, or voice over internet protocol, allows you to make phone calls using the internet rather than traditional telephone technology.

CUSTOMER SERVICE

In July 2007, 3870 subscribers took part in CHOICE Computer's biannual survey of internet service providers, answering questions about various aspects of ISP service provision. Customer service in particular is a key part of a good experience with your ISP. If you run into problems you need to know you can quickly get in touch with someone who can remedy the problem.

Almost half of respondents (41%) had contacted their ISP in the three months prior to the survey and this was usually (64%) for technical support. Most users (85%) just pick up the phone when they need some help from their ISP and they usually waited about 10 minutes or less to speak to the right person. The best performer here was iiNet — its ADSL and ADSL2/2+ customers were more likely than average to wait less than five minutes when they contacted their ISP.

Support staff can make or break an ISP's technical support rating and the survey showed mixed results:

Internode ADSL customers were more likely than those of other ISPs to rate the support staff as very good for the technical help, time taken to resolve queries, communication skills and patience.

iiNet ADSL customers were more likely to rate the support staff as very good for technical support.

iiNet ADSL2/2+ users were more likely to rate the support staff as very good for the time taken to resolve queries, communication skills and patience.

Optusnet ADSL customers were more likely to rate the support staff as fairly or very poor for their communication skills.

Most survey respondents waited up to 10 minutes on the phone when they needed help from their ISP.

When it comes to the **crunch...**

We scrutinised more than 180 mueslis to find the best ones for you — low fat, low sugar, high fibre, lots of fruit, nuts or seeds — so all you have to do is eat and enjoy.

**BEST
OF ALL
WORLDS**



nutshell

► Whether you're after low fat, low sugar, high fibre, a variety of nuts and seeds or fruit, or the best of all worlds, CHOICE finds the right muesli for you.

► You can spend anything from \$3 per kg to over \$30 per kg on muesli. We look at what you're paying for.

There seems to have been a muesli explosion of late — a trawl of the supermarket shelves returned more than 180 different products. And we discerning consumers could be the cause. Reader feedback told us that when choosing a muesli, we all look for different things (aside from taste, of course) — some people are after high fibre, some prefer a variety of fruit, some are looking for low fat above all else, while others want a tasty range of nuts and seeds.

CHOICE reviewed the 180-plus products to find the top-rating mueslis to meet each of those criteria, and more. So rather than puzzling over ingredients lists, packaging claims and nutrition information panels (NIPs), all you have to do is eat, and enjoy.

Best of all worlds

If you're not concerned about any particular nutritional quality, such as low fat or sugar, but just want a good nutritious all-rounder, the 14 mueslis on the right and pictured above hit the spot. They're all high in fibre, low in sodium, and for mueslis they contain less than average sugar and fat, and less than 5% saturated fat.

BEST OF ALL WORLDS

BRAND/PRODUCT (ranked by price per kg)	FAT (%)	SUGARS (%)	FIBRE (%)	SODIUM mg / 100 g	PRICE PER KG (\$)
Coles Smart Buy Muesli	7.8	12.4	15.0	64	2.83
Arnold's Farm Strawberry & Yoghurt Muesli	7.7	16.4	10.2	18	4.59
Arnold's Farm Wild Berry Muesli	6.2	14.0	10.2	19	4.59
You'll Love Coles Apple Peach & Pecan Muesli	9.8	16.4	12.0	50	4.67
Lowan Original Harvest Muesli	8.6	4.0	10.9	6	4.99
Morning Sun Peach & Pecan Natural Muesli	8.1	16.2	12.2	25	5.13
Soland High Protein Muesli	9.9	15.5	10.5	22	6.70
Monster Muesli Hi-Fibre	8.6	15.4	13.6	19	8.00
Monster Muesli Sports Muesli Original Recipe	8.9	10.1	10.5	22	8.00
Biogenic Natural Muesli	8.3	16.2	10.6	65	8.73
Nu-Vit Mega High Protein Muesli	10.9	11.9	10.2	19	9.19
Whisk & Pin Bircher Muesli	8.2	10.4	13.1	8	15.00
Sandra Cabot's High Protein High Fibre Muesli	9.3	6.6	18.0	113	16.00
Whisk & Pin Organic Muesli	11.8	7.0	14.3	5	22.00

Lowest-fat mueslis

Mueslis are intrinsically higher in fat than other cereals — the average fat content of the mueslis in our test is 12% — but the fat is often from oats, seeds or nuts, meaning it's the 'good' unsaturated type (and you get the valuable nutrients that are found naturally in these ingredients). If you're trying to avoid fat of any kind, however, you can find some mueslis that contain next to none.

Fifteen mueslis meet the Australian food regulator's definition for low fat (no more than 3% fat), and the five mueslis in the table (below) contain the least (2.5% or less). The low fat content of the mueslis in this list can be attributed to the fact that none of them contains seeds or nuts or has oats as a first ingredient.

However, what low-fat mueslis lack in fat they tend to make up for in sugar. UNCLE TOBYS is the only muesli in our list not to contain added sugar, and four of the five are over 22% sugar, higher than the average sugar content for muesli (see *Lowest sugar*, right).

Don't assume 'lite' means low fat — ORGRAN Gluten Free Lite and Crunchy Muesli Fruit and Almond, for example, is over 20% fat.

Tips for choosing lower fat

- ✓ Check the NIP. Less than 12% fat (12 g fat per 100 g) is better than average for muesli. For really low fat, look for mueslis with 3% or less.
- ✓ The type of fat is also important. Again, check the NIP — the lower the ratio of saturated fat to total fat the better. The ingredients list tells you whether the fat comes mainly from nuts and seeds (unsaturated fat) or added fat, depending on which is listed higher up. Where added fat is listed as 'vegetable oil', it could be from coconut oil, which is a saturated fat, or 'hardened' vegetable oil, which can contain trans fat — as bad for us as saturated fat.

Lowest-sugar mueslis

Nine mueslis meet the definition for low sugar (no more than 5% sugar), and the five in the table (below) contain the least (less than 2% sugar) — far less than the average of 18%.

Muesli can be full of sugar without it being listed as an ingredient. FREEDOM FOODS Muesli Gluten Free Wheat Free carries a 'No added sugar' claim, for example, but it's still 24% sugar, thanks to its dried fruit content. Dried fruit, while providing many valuable nutrients, is also a concentrated form of sugar.

The muesli in this list, on the other hand, contain minimal or no dried fruit. They do, however, contain more fat than the average muesli (albeit from nuts and seeds, rather than added fat), which means the trade-off for low sugar is fat.

Tips for choosing lower sugar

- ✓ Check the ingredients list for 'added sugar'. It can be disguised as honey, maple syrup, golden syrup or glucose, for example.
- ✓ Watch out for dried fruit in the top three ingredients. >

Muesli can be full of sugar without it being listed as an ingredient, thanks to its dried fruit content.

LOW-SUGAR MUESLI

BRAND/PRODUCT (ranked by sugar content)	SUGARS (%)	FAT (%)	FIBRE (%)	PRICE PER KG (\$)
Macro Fruit Free Non Organic	1.0	19.2	ns	7.99
Biogenic Yeast and Wheat Free Muesli	1.1	20.1	8.9	7.73
Food for Health Life Food The Liver Cleansing Muesli	1.2	23.6	13.2	19.90
Freedom Foods Muesli Yeast Free Wheat Free	1.4	23.1	9.8	7.45
Real Good Food Organic Fruit Free Muesli	1.7	17.4	ns	19.98

LOW-FAT MUESLI

BRAND/PRODUCT (ranked by fat content)	FAT (%)	FIBRE (%)	SUGARS (%)	PRICE PER KG (\$)
Simply Cereal Balance Low Fat Muesli Breakfast Cereal	1.8	6.4	24.6	10.73
Morning Sun Fruit Muesli	2.4	10.3	18.4	5.50
Uncle Tobys Low Fat Muesli Fruit and Grains	2.4	10.8	22.3	9.98
Nu-Vit Low Fat Natural Muesli	2.5	9.5	25.6	7.19
Soland Muesli Natural Low Fat	2.5	9.5	24.9	7.20

Did you know?

Grains 86% of mueslis in our review contain oats. But other grains we found in mueslis include wheat, rice, barley, triticale, corn/maize, rye, psyllium, millet, amaranth and spelt.

Organic 16% of mueslis are certified organic (and a number contain just some organic ingredients).

Food intolerances 17% of mueslis claim to be wheat-free (8% claim gluten-free, 4% yeast-free).

FOR MORE INFORMATION

If you want to see how your regular muesli compares to the top-rating mueslis in each of our categories, go to choiceextra.com.au and click on Jun 08 under 'Muesli' in the index.

Don't rely on packaging claims for choosing a high-fibre muesli — many with above average fibre were claim-free.

High-fibre mueslis

Adults should be aiming for about 30 g of fibre a day, and a high-fibre breakfast cereal is a good starting point. The fibre content of the mueslis we checked ranged from 3.5% to 18.3%, with an average of 10%. The seven in the table (below) contain at least 15% — that's 7.5 g of fibre in an average 50 g serve of muesli — which would provide a good kickstart to your day's fibre intake.

Tips for choosing high fibre

- ✓ Check the NIP for mueslis with 10% (10 g per 100 g) or more fibre.
- ✓ Don't rely on claims for choosing a high-fibre muesli — many with more than average fibre were claim-free.

Mueslis with a variety of nuts and seeds

The most common nuts we found in muesli are almonds (in 48% of mueslis) and hazelnuts (15%). For seeds, sunflower seeds (you'll be eating them in 63% of mueslis), pumpkin seeds (31%), linseed (24%) and sesame seeds (22%) are the most prevalent.

With at least six different nuts and seeds listed as ingredients, the five mueslis in the table (below left) come top for variety.

The more rare — and for some people more desirable — nuts were macadamias, cashews and pecans. And just one muesli, WHISK & PIN Summer Muesli, contained pistachios.

HIGH-FIBRE MUESLIS

BRAND/PRODUCT (ranked by fibre content)	FIBRE (%)	FAT (%)	SUGARS (%)	PRICE PER KG (\$)
Freedom Foods Muesli Gluten Free Wheat Free	18.3	27.2	24.3	11.18
Sandra Cabot's High Protein High Fibre Muesli	18.0	9.3	6.6	16.00
You'll Love Coles Summer Fruits Muesli	18.0	12.4	26.8	4.67
Carman's Natural Untoasted	16.7	16.7	11.2	8.90
Biogenic Julieannes Homestyle Muesli	16.0	20.7	14.2	8.73
Food for Health Life Food The Fibre Cleanse Muesli	16.0	20.4	2.4	19.90
Coles Smart Buy Muesli	15.0	7.8	12.4	2.83

MUESLIS WITH A VARIETY OF NUTS AND SEEDS

BRAND / PRODUCT (in order of price per kg)	FAT (%)	SUGARS (%)	FIBRE (%)	NUT AND SEED INGREDIENTS	PRICE PER KG (\$)
Meriam Five Grain Muesli with Cranberries	11.1	26.0	10.3	Almonds, peanuts, sunflower seeds, pumpkin seeds, linseed, sesame seeds	4.64
You'll Love Coles Toasted Muesli	16.8	7.6	10.0	Almonds, cashews, pecans, sunflower seeds, pumpkin seeds, sesame seeds	5.32
SunSol 5 Grain Muesli with Cranberries	10.8	23.9	10.6	Almonds, peanuts, sunflower seeds, pumpkin seeds, linseed, sesame seeds	5.99
Solad High Protein Muesli	9.9	15.5	10.5	Almonds, peanuts, walnuts, sunflower seeds, linseed, sesame seeds	6.70
Thisit Organics Natural Muesli with Psyllium Husks, LSA and Goji Berries	10.0	9.8	9.8	Almonds, mixed nuts, sunflower seeds, pumpkin seeds, linseed	15.90

Jargonbuster @!?

Muesli was created around 1900 by Swiss physician Max Bircher-Benner, who used a diet of raw vegetables, fruit and nuts to treat patients. The original **Bircher muesli** was uncooked rolled oats soaked in water or fruit juice, served with grated or chopped fresh fruit. Nowadays, **Bircher- or Swiss-style** mueslis tend to be oats mixed with other cereals, nuts, seeds and various dried fruits.

Natural implies that the muesli hasn't been toasted or baked, but it's a meaningless term for helping you choose a healthy muesli. Many mueslis marketed as 'natural' have oil or sugar added, and some are over 20% fat or 25% sugar.

Toasted/roasted/baked In the past, toasted mueslis were often higher in fat. But this time many of the toasted (and roasted and baked) mueslis in our samples contain lower than average fat, and not all of them list oil as an ingredient. On the other hand, most of these mueslis contain added sugar, often in the form of honey. Honey could be used in the heating process to give that glazed look common to toasted mueslis.

Granola (originally 'granula') is a type of muesli-like cereal invented in New York at the same time as the Swiss were inventing muesli, and because of its similarities to muesli we've included it in this review. Granola consisted of wholegrain products clustered together and baked until crispy. It was revived as a 'health food' in the 1960s, when fruits and nuts were added. The name 'granola' is trademarked in Australia by Sanitarium, but there are plenty of granola-style products on the shelves, usually marketed as 'clusters' or 'crunchola'. Most granola-style cereals, like most mueslis, are oat-based. The majority contain added oil and sugar (sometimes in the form of honey or other sweet syrups) to hold them together.

Mueslis with a variety of fruit

The fruits of choice for muesli manufacturers are sultanas (found in 69% of mueslis), apricots (49%), apple and coconut (both 38%), pawpaw (34%), raisins (26%), currants (24%) and pineapple (22%).

With at least eight different fruits appearing on the ingredients list, the six mueslis in the table (below) come top for variety.

Price

You can pay anything from just under \$3/kg to over \$30/kg for muesli. So what are you getting for your money?

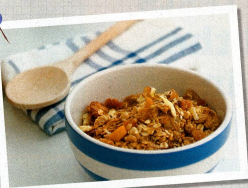
Least expensive At the cheaper end, the common themes include:

- Supermarket own brands.
- A variety of fruit, but primarily the more common fruits such as sultanas and apricots.
- Fewer nuts, and then mainly almonds or peanuts.
- Larger pack sizes (750 g–1 kg).

More expensive If you're willing to fork out \$20/kg or more, you're more likely to get:

- Niche products catering to special needs such as gluten-free, wheat-free, low GI, vegan or organic.
- More 'exotic' fruits and nuts, such as barberries, wild blueberries, cherries, organic figs and macadamia nuts.
- Smaller packs (usually 400–500 g) or individual serves, and fancy packaging.
- Pure indulgence — such as the WHISK & PIN Rocky Road Muesli Crunch, which is essentially rolled oats and barley mixed with strawberries, marshmallows and Belgian chocolate, laced with honey and maple syrup. ■

Muesli recipe



This tasty recipe from CHOICE's home economist has been a readers' favourite for years. Its nutritional info is also shown below — to meet our 'best of all worlds' criteria, only use half the honey, apricots and sultanas specified.

- 2 cups rolled oats
- 1 cup rice bran
- 2 cups triticale flakes (or substitute wheat, rice or bran flakes)
- $\frac{1}{4}$ cup unprocessed wheat bran
- $\frac{1}{2}$ tbsp sesame seeds
- 2 tbsp slivered almonds
- $\frac{3}{4}$ cup shredded or flaked coconut
- 2 tbsp honey
- 150 mL fresh orange juice
- $\frac{1}{2}$ cup apricots, chopped finely
- $\frac{1}{2}$ cup sultanas
- 6 pieces dried apple, chopped finely
- 5 pieces dried mango, chopped finely
- 5 pieces dried pawpaw, chopped finely
- 6 prunes, chopped finely

- Combine all dry ingredients except dried fruit.
- Blend honey and juice (warm them gently in a microwave), pour them over the dry ingredients and mix well.
- Place the mixture onto a baking tray lined with baking paper and bake at 150°C for 25–30 minutes or until golden, stirring occasionally. Cool.
- Combine dried fruit with the baked ingredients.
- Store the muesli in an airtight container.

Other dried fruits can be used instead — try figs, raisins, cranberries, currants, banana or pears.

Nutrition

Fat 9.5%
Sugars 23.5%
Fibre 10.3%
Sodium 86 mg/100 g

MUESLIS WITH A VARIETY OF FRUIT

BRAND/PRODUCT (in order of price per kg)	FAT (%)	SUGARS (%)	FIBRE (%)	FRUIT INGREDIENTS	PRICE PER KG (\$)
The Muesli Company Premium Muesli Full of Fruit	7.9	23.8	11.2	Sultanas, apricots, apple, pawpaw, currants, raisins, pineapple, banana, dates, nectarine, peach	4.67
SunSol Apple and Berry Muesli Low Fat	2.8	24.0	8.8	Sultanas, apricots, apple, pawpaw, pineapple, banana, blueberries, raspberries, strawberries	5.99
Soland Muesli WildBerry	14.9	21.4	9.3	Sultanas, apricots, coconut, pawpaw, pineapple, banana, blueberries, raspberries, strawberries	7.40
Biogenic Julianne's Homestyle Muesli	20.7	14.2	16.0	Sultanas, apricots, apple, currants, raisins, peaches, pears, nectarines	8.73
Biogenic Wheat and Gluten Free Muesli	3.6	18.7	5.4	Sultanas, apricots, apple, pawpaw, currants, raisins, banana, dates	10.73
Macro Organic Fruity Muesli	12.8	15.1	ns	Sultanas, apricots, apple, currants, raisins, cherries, kiwifruit, plums, raspberries, strawberries, oranges, lemons	10.99

USING THE TABLES

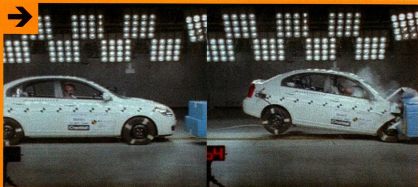
Price per kg This is calculated from the recommended retail price supplied by the manufacturer/distributor in February 2008. Where a price range was supplied, we took the median. If products are sold in different-sized packs we used the price of the largest pack size. Where a manufacturer didn't supply the RRP or couldn't be contacted we based it on the price of the pack size we bought in January 2008.

Fat, sugar and fibre These figures are taken from the nutrition information panel on the package. Only products that declared their fibre content were reviewed for the 'Highest fibre' and 'Best of all worlds' categories.

TABLE NOTES

ns Not stated.

Crash tests reveal the latest in new car safety



nutshell

- The SUBARU Impreza received the highest rating for pedestrian safety to date.
- Since 1 January 2008, all cars must have electronic stability control (ESC) to receive a top rating.

Thinking of buying a new car? Then you'll be pleased to know that throughout 2007, the Australian New Car Assessment Program (ANCAP) released more high-speed crash test results for a number of popular cars in various categories. The tests were carried out in Australia and Europe. Most of the newly tested cars scored very well for occupant protection.

Small but safe

The latest batch of ANCAP tests shows that safety features are no longer reserved only for luxury vehicles. Even small cars provide impressive protection in the event of a high-speed crash.

For example, the SUBARU Impreza and TOYOTA Corolla hatch scored 94% for occupant protection and come with added safety features (standard or optional), such as dual front and side airbags, head-protecting side curtain airbags, anti-lock brakes (ABS), electronic brake distribution (EBD) and/or electronic stability control (ESC). While side, head and front airbags greatly decrease the risk of injury during a crash, the last three features also help prevent some accidents from occurring.

In the pedestrian test, which estimates the head and leg injuries of an individual struck by the vehicle, the SUBARU Impreza received the highest rating ever awarded. CHOICE hopes other manufacturers will follow suit and start to think more about pedestrian safety.

Electronic stability control

Since 1 January this year, in order for vehicles to achieve top scores in the ANCAP test, they must have electronic stability control — sometimes called by other names, such as vehicle stability control or electronic stabilisation program. It's an active safety system that reduces the risk of a driver losing control when the car skids, swerves or when road conditions change.

With the use of intelligent sensors, ESC can detect instability, oversteering or understeering, and stabilise the car by braking individual wheels and reducing engine torque to bring the vehicle back on course.

International research has shown that ESC can reduce crashes in passenger vehicles by 35%, and by 67% in four-wheel drive and sports utility vehicles (SUVs).

ESC is an inbuilt car safety feature available only in some models, and can't be separately installed. For a list of vehicles with ESC, go to the FCAI website at www.autoindustries.com.au/esc.

What's tested?

ANCAP tests consist of two main crashes (offset and side impact, scoring up to 16 points each), an optional pole test (two points), and an assessment of the seatbelt warning system (up to three points).

The score out of a maximum of 37 points is then converted to a percentage to give the occupant-protection rating in the table.



The car is driven at 64 km/h into a fixed barrier to simulate it crashing into another vehicle.



Offset crash In this, the car is crashed at 64 km/h into a fixed barrier with a crushable aluminium face. Only 40% of the car's front (on the driver's side) hits the barrier. This simulates crashing into another car.

Side-impact crash For this test, a 950 kg trolley is run into the driver's side of the stationary car at 50 km/h. This test simulates a fairly small car striking the driver's door. Cars with a relatively high seating position, such as many four-wheel drives, can be expected to perform well in this test. ANCAP awards these cars a score of 100% by default, without carrying out the test.

Pole test Models with head airbags are eligible for the optional pole test, which can earn an additional two points for a low risk of head injury. This test simulates a vehicle sliding sideways into a pole at 29 km/h and hitting it in line with the head of the seated driver.

Advanced seatbelt warning system Models with such a system can earn up to three additional points. The system has to meet a range of requirements, such as detecting which seats are taken, whether the seatbelts in those seats are used, and whether the car is in use. If any of the seatbelts for occupied seats aren't used, the system needs to give a visual and audible warning signal.

Pedestrian protection test This estimates injuries to pedestrians struck by a vehicle at 40 km/h. It isn't part of the occupant protection rating, but is reported separately. The score out of 36 points is converted to a percentage to give the pedestrian-protection rating in the table.

The pole test simulates a vehicle sliding sideways into a pole at 29 km/h and hitting it in line with the head of the driver.



WHAT'S ASSESSED?

The **occupant protection rating** is based on assessments of the car's structure and restraint system, as well as measurements of injury risks. Crash test results are only comparable for vehicles within the same category.

Structure

- The passenger compartment should keep its shape.
- The steering column, dashboard, roof, roof pillars, pedals and floor panels shouldn't be pushed excessively inwards, so there's less risk of injury.
- Doors should remain closed during the crash (so occupants can't fall out of the car), and easy to open after the crash (so occupants can get out, or rescuers in).

Restraint system

- The seat, seatbelt and — if available — the airbag(s) are supposed to keep the occupants inside the car, protect them from contact with hard car parts (such as the steering wheel, dashboard or windscreen), and spread the force of the impact over body parts that can cope best.
- For some tests, crash test dummies are painted with paint that rubs off on contact. This, together with a slow-motion video of the crash, shows whether any body parts hit parts of the car.

Injury risk

- Crash test dummies representing an average adult male are fitted with sensors that measure the forces and movements likely to injure the head, chest, upper and lower legs.
- In the offset crash there are driver and passenger dummies; in the side-impact crash there's only a driver dummy.
- The results for head and chest injuries are combined to indicate the risk of life-threatening injuries.

Safety features are no longer reserved only for luxury vehicles — small cars provide impressive safety in a crash.

LATEST (2007) ANCAP CRASH TEST RESULTS

Make / model / year / engine size (airbags) ranked in order of overall occupant protection within category *	Occupant protection (%)	Pedestrian protection (%)
SMALL CARS		
Subaru Impreza 5-door hatch, 2007 onwards, 2.0 L (front, side and head) (A)	94	77
Toyota Corolla hatch, 2007 onwards, 1.6 L (front, side and head)	94	58
Peugeot 207 3-door, 2006 onwards, 1.4 L (front, side and head)	93	52
Toyota Corolla sedan, 2007 onwards, 1.6 L (front, side and head)	91	64
Ford Focus 5-door hatch, 2007 onwards, 1.6 L (front, side and head) (B)	90	43
Mini Cooper 3-door hatch, 2007 onwards, 1.6 L (front, side and head) (C)	88	39
Hyundai i30 GLS hatch, 2007 onwards, 1.6 L (front, side and head)	85	38
Honda Civic Hybrid sedan, 2007 onwards, 1.3 L hybrid (front, side and head) (C)	80	58
Suzuki SX4 5-door hatch, 2007 onwards, 1.6 L (front, side and head)	79	60
Honda Civic Vti sedan, 2006 onwards, 1.8 L (front) (A)	78	54
Kia Rio 5-door hatch, 2007 onwards, 1.4 L (front, side and head)	77	36
Hyundai Accent S sedan, 2006 onwards, 1.6 L (front) (A)	57	29
MEDIUM CARS		
Volvo C30 3-door hatch, 2007 onwards, 1.8 L (front, side and head)	92	26
Skoda Roomster, 2007 onwards, 1.9 L diesel (front, side and head)	91	38
Dodge Caliber, 2007 onwards, 2.0 L diesel (front and side)	79	13
Skoda Octavia Ambiente, 2007 onwards, 1.6 L (front, side and head) (C)	78	48
Kia Magentis GL, 2006 onwards, 2.4 L (front, side and head)	77	8
Hyundai Sonata GLS, 2006 onwards, 2.4 L (front, side and head) (C)	72	33
Holden Epica CDX, 2007 onwards, 2.5 L (front, side and head) (A)	71	38
LARGE CARS		
Ford Mondeo, 2007 onwards, 2.0 L diesel (front, side and head) (D)	95	49
Honda Legend sedan, 2006 onwards, 3.5 L (front, side and head)	90	60
Toyota Aurion AT-X, 2006 onwards, 3.5 L (front, side and head) (A)	81	22
Toyota Camry Ateva sedan, 8/2006 onwards, 2.4 L (front, side and head) (A)	76	40
Holden Commodore VE Omega sedan, 2007 onwards, 3.6 L (front) (A)	74	25
Toyota Camry Altise sedan, 8/2006 onwards, 2.4 L (front) (A)	74	40
4WDS		
Land Rover Freelander 2 TD4, 2007 onwards, 2.2 L diesel (front, side and head)	94	20
Nissan Dualis Visia, 2007 onwards, 1.6 L (front, side and head) (E)	91	50
Mitsubishi Outlander 7-seater, 2008 onwards, 2.0 L diesel (front, side and head)	90	48
Nissan Dualis ST, 2007 onwards, 1.6 L (front) (E)	86	50
Holden Captiva, 2006 onwards, 2.4 L (front, side)	84	47
Honda CR-V Sport, 2007 onwards, 2.2 L diesel (front, side and head) (D)	84	36
Audi Q7 VR6, 2006 onwards, 3.6 L (front, side and head)	81	43
Toyota RAV4 CV, 2006 onwards, 2.4 L (front) (A)	81	60
Hyundai Santa Fe GLS, 2006 onwards, 2.2 L diesel (front, side and head)	79	0
Suzuki Grand Vitara, 2006 onwards, 1.9 L diesel (front, side and head)	78	52
SPORTS CARS		
Peugeot 207cc Sport, 2007 onwards, 1.6 L (front, side and head) (C) (F)	89	44
VW Eos Ambiente, 2007 onwards, 1.6 L (front, side and head)	85	37
COMMERCIAL VEHICLES		
VW Caddy Life, 2007 onwards, 1.9 L diesel (front and side)	77	35
Mitsubishi Triton 4x4 GLX Dual Cab, 2006 onwards, 3.2 L diesel (front) (A)	68	9
Mitsubishi Express short wheelbase, 2003 onwards, 2.4 L (none) (A)	23	25
PEOPLE MOVERS		
Citroen C4 Picasso 7-seater, 2007 onwards, 1.6 L diesel (front, side and head)	94	46
Toyota Tarago GLI, 2006 onwards, 2.4 L (front) (A)	82	45

TABLE NOTES

Source: Crash test data from the Australian New Car Assessment Program (ANCAP), which is supported by Australian and New Zealand motoring clubs, all Australian state governments, the New Zealand Government and the FIA Foundation.

* Unless otherwise stated, the left-hand-drive European model was tested by EuroNCAP. Australian specifications may vary and models sold in Australia might provide slightly different levels of protection from those described.

(A) Tested by ANCAP.

(B) The Australian version comes with a 2.0 L or 2.5 L engine.

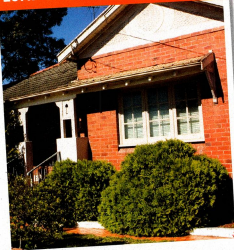
(C) The right-hand-drive European model was tested by EuroNCAP.

(D) The Australian version isn't available with a diesel engine.

(E) The Australian version comes with a 2.0 L engine.

(F) The tested model had a driver knee airbag, which isn't available in Australia.

LUMP-SUM REVERSE MORTGAGE NOW



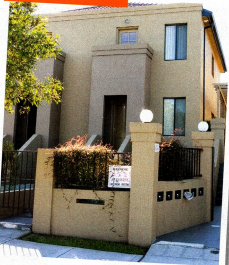
House value now \$450,000
Lump sum reverse mortgage taken \$67,500

► **IN 25 YEARS** House value \$1,063,500 (A)
Debt owed on reverse mortgage \$956,500
Equity available after reverse mortgage repaid \$107,000

Till death us do part...

A reverse mortgage can dramatically reduce your options and lock you into staying in your house till you die.

DOWNSIZE NOW



Sale of old home now \$450,000
Cost of new home \$330,000
Cash available after costs >\$67,500

► **IN 25 YEARS** Debt \$0
House value/equity \$780,000 (A)

nutshell

► If you take out a large reverse mortgage too early in your life you're likely not to have enough left later to downsize or fund an accommodation bond for a retirement village.
► A few reverse mortgage lenders have now cleaned up their contracts to meet CHOICE standards and provide you with better protection against losing your home.

I imagine this scenario: Jenny (60) and James' (65) family home is worth \$450,000. James has just retired and they'd like to go on a three-month holiday to Europe and buy a new car. They think this will cost about \$67,500 — the maximum amount available to them with many reverse mortgages.

Reverse mortgages allow older people (normally aged 60 and over) to unlock some of the equity in their home by borrowing against it. The maximum amount depends on your age. Normally you only have to pay it back when you sell the house, move into long-term aged care or die.

Reverse mortgages are promoted as a way to upgrade your lifestyle or provide an easy funding option for a holiday or even your grandchildren's education.

However, if your house is your main asset, a reverse mortgage has a major impact on your future options — such as whether you'll have enough equity left later to downsize or to fund a bond in an aged-care facility.

CHOICE crunched the numbers for James and Jenny using three scenarios:

- 1 Lump-sum reverse mortgage now** for \$67,500.
- 2 Downsize now** to a unit or town house in the same area or a house outside the city, for \$330,000.
- 3 Take a regular-payments reverse mortgage later in life** Twelve and a half years later, Jenny at 72 and James at 77 will be on the full age pension. To raise their standard of living — for example, to cover running costs for a car — they might think they'd need about \$750 extra per month.

Each scenario looks at their situation when Jenny turns 85 and James 90, when they're likely to have different needs from now. The full dollar amounts they'll be left with are shown in the three tables on page 32, but here's a summary of the very different outcomes:

Lump-sum reverse mortgage now If they take the \$67,500 lump-sum reverse mortgage now, 25 years later they'd owe \$956,500 — and they'd only have \$107,000 equity in their home. This wouldn't leave them many options.

Downsize now If they downsize, they're substantially better off: 25 years later, they own a home worth about \$780,000 and are debt-free. They could sell their home and move to a smaller home or a retirement village, or even think about taking out a reverse mortgage then.

Regular-payments reverse mortgage later A reverse mortgage taken as a monthly payment later in life works out much better than a lump sum at a younger age. Twelve and a half years later, they'd owe more than double the money they've used, but still have a large amount of equity in their home. They could even keep taking out the same amount over a longer period, as their situation wouldn't change dramatically over the next few years. >

31%

is approximately the proportion of people aged 85 and over who live in aged-care accommodation. Many are there as the result of a disability.

(A) We've assumed a 3.5% annual increase in house values.

James and Jenny's three scenarios: outcomes

SCENARIO 1: TAKE LUMP-SUM REVERSE MORTGAGE NOW

House value \$450,000; lump sum reverse mortgage \$67,500

Year	Mortgage	Home value	Equity after mortgage
5	\$116,800	\$534,500	\$417,600
10	\$198,000	\$634,800	\$436,700
12.5	\$257,700	\$691,800	\$434,100
15	\$335,100	\$753,900	\$418,800
20	\$566,400	\$895,400	\$329,000
25	\$956,500	\$1,063,500	\$107,000

SCENARIO 2: DOWNSIZE NOW

Sale of home \$450,000; cost of selling, buying, moving, etc \$52,500*; money for holiday/new car \$67,500; value of new home \$330,000

Year	Mortgage	Home value	Equity in home
5	0	\$391,900	\$391,900
10	0	\$465,500	\$465,500
12.5	0	\$507,300	\$507,300
15	0	\$552,900	\$552,900
20	0	\$656,600	\$656,600
25	0	\$779,900	\$779,900

* Includes agent fees of 4%, legal costs of \$2500 each for buying and selling, stamp duty of \$13,310 (Vic), moving costs of \$10,000. It leaves about \$10,000 for incidentals.

SCENARIO 3: REGULAR-PAYMENTS REVERSE MORTGAGE AT AGES 72 AND 77

House value then \$691,800; monthly payments \$750; total loan over 12.5 years \$112,500

Year	Mortgage	Home value	Equity after mortgage
5	\$62,400	\$821,600	\$759,300
10	\$165,600	\$975,900	\$810,200
12.5	\$241,400	\$1,063,500	\$822,000

IF \$750 MONTHLY PAYMENTS CONTINUED

15	\$339,800	\$1,159,000	\$819,200
20	\$633,700	\$1,376,500	\$742,900

Source: www.fido.gov.au.

Rounded to the nearest \$100.

Assumptions We've used the CBA reverse mortgage with 10.49% variable interest rate, \$1200 setup costs and \$12 monthly fee. For the annual increase in house value we've used the medium setting on the Fido calculator = 3.5%. If the value of your house increases more than in our calculations, your situation will be better. But if it increases less, it'll be worse.

What do the experts say?

CHOICE engaged the help of experts to model and interpret our scenarios. See *Meet the experts*, right.

They gave the following advice about reverse mortgages:

Reduce the amount of the loan and put off taking it out as long as possible to reduce the amount of interest you'll pay. For example, James and Jenny could try to reduce the costs of the trip and delay buying a new car until later.

Make repayments along the way if you can (and if the reverse mortgage allows it), rather than waiting till you sell the house.

Equity protection Some reverse mortgages allow you to exclude a percentage of your equity from the loan; the maximum loan amount is then calculated on the rest of the property's value, and you always retain the protected portion of equity. See *Using the table*, page 34, for more.

Consider the downsides of moving If you downsize, will you move away from your support network, such as friends and family? And moving from a house into a unit can have its costs, such as for strata levies and sinking funds.

Consider the downsides of staying You need to maintain your property, which could be harder if you stay in your house — can you still afford repairs if they're needed later?

Help for older people You don't always have to move to a nursing home when you need some help with everyday activities. The Federal Government subsidises home aged care and community care packages that enable older people to keep living at home with a level of care equivalent to residential care.

What to think about, right, lists all the factors to consider before you jump into a reverse mortgage — for many people, another option will work out better. If you do decide to go for a reverse mortgage, see the table, page 34, for details of the seven products CHOICE thinks offer the best protection to consumers. >

86

is the average life expectancy of a woman currently aged 60; her 65-year-old male partner's life expectancy is 83.

Debt accelerating rapidly

Four years ago, Percy (81) from NSW took out a reverse mortgage to cover medical and funeral expenses for his wife, who died of cancer.

"I'd been living on the aged pension and credit cards and needed some money to pay them back. I only needed \$20,000, but the minimum loan was \$40,000 so I took that," says Percy.

But now his debt has increased to close to \$60,000 and the interest rate has gone up to more than 10%. "The debt is accelerating quite rapidly. So I'm thinking of selling, paying back the loan and buying something smaller."

Percy has lived in his home for more than 30 years and has friends living close by, so he'd like to stay in the same area. Unfortunately he calculated that with agent costs, stamp duty and paying back the mortgage, he might not have enough left to trade his home for a modern one-bedroom unit he's interested in.

"I've put it on the back burner for now, but I'll rethink it over the next six months," he says.



PHOTO COURTESY OF PERCY

Meet the experts

**Basil La Brooy**

Basil is a Community Education Officer, National Information Centre on Retirement Investments (NICRI), which is a free, independent, confidential service for consumers who need help understanding investments. NICRI currently receives about 50 enquiries per month about reverse mortgages.

**Noel Dyett**

Noel is the President of the Real Estate Institute of Australia (REIA). REIA is the national professional association for the real estate industry in Australia and has published property market data and analysis for several decades.

**Kerrin Falconer**

Kerrin is a Certified Financial Planner and SA Chapter Chair of the Financial Planning Association of Australia (FPA). The FPA is the peak professional organisation representing the financial planning sector in Australia and has released guidelines for advice on reverse mortgages for its members.

**Debra Parnell**

Debra is a Policy Officer for the Council on the Ageing (COTA) Victoria. COTA Victoria has published a study examining the attitudes and experiences of older people with reverse mortgages. The study found many people had limited understanding of the products and that their knowledge was mainly derived from advertising.

PHOTOS COURTESY OF THE EXPERTS

**WHAT TO THINK ABOUT**

Reverse mortgages can work to some people's advantage. But they're a long-term financial decision — you need a plan, and to consider all the pitfalls.

- Is a reverse mortgage the best option? Consider alternatives: could you downsize, for example?
- How much money do you really need? Is there a way to reduce the amount you're borrowing or to delay the reverse mortgage to a later time?
- Calculate a range of loan amounts, interest rates (and how interest compounds) and changes in house value over time, and take your life expectancy into account, to become aware of possible outcomes. There's a free calculator at www.fido.gov.au.
- Make a long-term plan — for example, maybe you could take out a reverse mortgage but downsize in a few years' time before the loan has increased too much. This could enable you to pay back the loan and buy a new property that meets your requirements.
- Consider your possible future needs. What if you'd need to fund an aged-care accommodation bond: would you still have enough money left to do so?
- Contact the Centrelink Financial Information Service and make sure your pension isn't adversely affected; phone 13 23 00.

- Talk to your family: a reverse mortgage will make a big difference to any inheritance. Maybe your children could help out instead or make repayments on the reverse mortgage to reduce its impact on your equity.
- Look at several loans and the loan features: which is the best reverse mortgage for you? Do you want regular payments, a cash reserve facility or a lump sum? (See *Loan features*, page 34, for more.) Do you want a variable or a fixed rate? Check interest rates, fees, break and exit costs, and compare products.
- Get independent legal advice and independent financial advice. For free information contact NICRI on 1800 020 110.

CHECK THE CONTRACT

- Under what conditions would you be in default of the loan conditions, and what happens in that case?
- Check the 'No negative equity guarantee' carefully with your legal adviser. What are the exclusions? Can the lender void it if you're in default? For more on this, see page 34.
- Make sure the lender and anyone you're dealing with (such as a mortgage broker and a company managing the mortgage) are all members of an approved dispute resolution scheme. To check, call 1300 780 808.

Look at loan features: do you want regular payments, a cash reserve facility or a lump sum?

There should be no contract condition that puts you in danger of losing your home for a minor, unspecified breach.

Reverse mortgages with good consumer protection

Reverse mortgages have come a long way since CHOICE first looked at them in 2004 (CHOICE *Money and Rights*, June/July 2004) and started to lobby the industry to clean up their contracts. At that time two of the lenders we looked at updated their contracts due to our requests to include a 'No negative equity guarantee'. This guarantees that the lender will cover any shortfall if the loan amount becomes larger than the net sale price for the house.

Last year CHOICE developed contract standards for reverse mortgages; none of the loans we looked at then met all these standards. Since then we've lobbied the industry, with the result that there are now some loans that meet our standards and give you better protection against losing your home.

The seven products in the table below meet the **five CHOICE minimum contract standards** and the **CHOICE good-practice standard**, described on the right.

CHOICE minimum contract standards

- 1 The mortgage company and the lender participate in an ASIC-approved dispute resolution scheme.
 - 2 The lender can't ask you for repayments during the course of the loan, for example once the loan is higher than a specific percentage of the value of your house.
 - 3 No fixed loan term — the borrower can repay the loan at any time. But, unless you're in default of the contract, the lender can only request repayment when the house is sold, you move into long-term aged care or die.
 - 4 You must get independent legal advice before you sign.
 - 5 The 'No negative equity guarantee' applies even if you're in default of the contract. The lender can only negate this guarantee in the case of fraud or wilful damage to the property by the borrower, or if the house isn't sold in an orderly arms-length sale — for example, if you sell it for a discounted price to a relative.
- CHOICE good-practice standard** The default conditions are clearly defined: there's no condition that puts you in danger of being forced to sell your home and pay back the loan for breaching a minor, unspecified contract clause.

Reverse mortgages with good consumer protection

PRODUCT	INTEREST RATES				COSTS		FEATURES					
	Variable rate (%) ^a	Lifetime fixed rate (%)	Other fixed terms available?	Repayment allowed on fixed rate without break costs	Total setup costs (\$)	Total ongoing fees per year (\$)	No penalty for full repayment in first five years	Minimum age of youngest borrower (years)	LVR age 60 (%)	LVR age 65 (%)	LVR age 70 (%)	LVR age 80 (%)
Company (in order of variable interest rate)												
ABN AMRO Reverse Mortgage	9.55	9.30	✓	10% pa	1000	0		60	15	20	25	35
Mariner Equity Access	9.55 (B)	9.65 (B)	✓	10% pa	465	0		60	15	20	25	35
Vision Equity Living Lifestyle Plan	9.65	9.60	✓	10% pa	645	0		60	15	20	25	35
Suncorp Metway Reverse Mortgage	9.85	9.60	✓	10% pa	900	0		60	15	20	25	35
Bluestone Equity Release EQUITYtap (A)	10.09 / 10.24 (C)	9.59 / 9.79 (D)			0-695	0		60	15-21	20-28	20-35	36-45
Cuscal Integris Equity Release (A)	10.09 / 10.24 (C)	9.59 / 9.79 (D)			0-695	0		60	15-21	20-28	20-35	36-45
CBA Equity Unlock Loan for Seniors	10.49	na			950	144	✓	65	na	20	25	40

USING THE TABLE

All loans in the table meet the five CHOICE minimum contract standards and the CHOICE good-practice standard, described above.

Interest rates and costs

Fixed rates and break costs So-called 'break' costs can apply if you make any loan repayments during a fixed interest rate period. Some lenders (including those in the table) make an exception if the repayment is caused by your move into long-term aged care or death. The best advice, though, is if you plan to repay the loan voluntarily, don't take a long-term fixed interest rate.

Setup costs These can include an establishment fee, valuation, lender conveyancing and legal fees.

Loan features

LVR Loan-to-value ratio. The percentage of the value of your home you can borrow. For example, with an LVR of 15% and a house valued at \$500,000 you can borrow up to \$75,000.

Protected equity You can exclude a percentage of your equity. The maximum loan amount is then calculated on the rest of the property's value, so you can only get a smaller amount but you'll always own part of your property. For example, for a \$500,000 house, if you protect 20% of the equity and the net sale price is \$800,000 when you sell, you'll get \$160,000 plus anything left over after the loan is repaid.

Payment options As well as a lump sum or a monthly payment, many providers also allow you to have a cash reserve facility for an emergency or flexible payments. While the money is in the cash reserve facility you don't pay any interest on it. However, check for the conditions, as there can be a minimum amount and fees for drawdowns.

Protection for all residents If you're the sole owner of the home and there are other permanent residents, such as your spouse or a relative, some companies allow you to protect their right to live in the house if you die or need to move into aged care. However, conditions apply: for example, there may be a minimum age, such as 60 years.

Apart from the seven reverse mortgages that give good consumer protection, several other companies offer reverse mortgages. They're listed on the right, rated either 'not good enough' or 'poor'.

Not good enough The reverse mortgages with this rating don't offer clearly defined default conditions. Each of them could in theory put you in default of the contract for minor contract breaches, which means the lender could ask you to sell your home immediately in order to repay the loan. However, they meet our five minimum contract standards, and many have procedures in place to give you the option of sorting out a default situation. **AUSTRALIAN SENIORS FINANCE** clearly sets out its procedures in the contract. For example, instead of calling in the loan it may pay an amount such as your council rates on your behalf or offer you alternative terms, and then agree to waive the default.

Poor The reverse mortgages with this rating don't have clearly defined default conditions and also may not honour the 'No negative equity guarantee' if you're in default. **HOMESTART** and **TRANSCOMM** also don't cover all the other conditions. ■

NOT GOOD ENOUGH

ANZ Equity Release.
Australian Seniors Finance Lifetime Loan.
Bank SA Seniors Access/Plus.
BankWest Seniors Equity Release.
Mortgagehouse Seniors Home Equity Release Loan.
Over Fifty Group Seniors Home Equity Release Loan.
Police & Nurses/Nurses First Credit Society Easy Living Access Loan.
SGE CU Retirees Access Home Loan.
St George Seniors Access/Plus.

POOR

HomeStart Finance Seniors Equity Loan (Deferred Payment Option).
Lifepan Australia Building Society Lifestyle Loan for Seniors.
Transcomm CU Annuity Plus Reverse Mortgage/Annuity Plus Reverse Mortgage Options.

WHO'S MISSING?

MACQUARIE and **HOME BUILDING SOCIETY** informed us they're no longer offering reverse mortgages.

The following companies that used to offer loans using the **MACQUARIE** contract currently no longer offer reverse mortgages: **AUSTRAL CREDIT UNION**, **COLLINS SECURITIES**, **MORTGAGEEZY**, **RESI**, **ROYAL GUARDIAN MORTGAGES**, **VISION EQUITY LIVING** (however, **VISION** continues to provide reverse mortgages using the **ABN AMRO** contract — see the table).

If you currently have a reverse mortgage through any of these companies your loan should continue as before, but it'd be a good idea to call the company to confirm.

						CONTACTS	
Maximum protected equity (%)	Payment options: lump sum, regular payment and cash reserve available?	Minimum drawdown from cash reserve facility (\$)	Cost per drawdown from cash reserve (\$)	Protection of right to live in the home available for non-borrowers?	Time for estate to repay after death (months)	Phone	Website
25	✓	1000	Free	✓	12	1800 999 959	www.abnamreversemortgages.com.au
25	✓	1000	50	✓	12	1300 009 963, 1800 009 963	www.marinerretirement.com.au
25	✓	1000	Free	✓	12	1300 72 82 86	www.visionequityliving.com.au
25	✓	1000	Free	✓	12	131 155	www.suncorp.com.au
20	✓	5000	Free	✓	6+	133 882	www.bluestoneequityrelease.com.au
20	✓	5000	Free	✓	6+	02 8299 9000	www.cuscal.com.au
na	✓	No min.	Free	ns	ns	132 224	www.commbank.com.au

TABLE NOTES

* Nominal rates as at 11 April 2008.
 na Not available. ns Not specified.

(A) This product is issued by **Bluestone**. As we went to press, **Bluestone** stopped providing reverse mortgages, but intended to make the **Integrus** product available again soon.

(B) Can be discounted by 0.25% if your financial planner forgoes trailing commission.

(C) The higher rate is for payment by instalment, the lower rate for a lump sum; both rates capped at 11.84%. They can be discounted by 0.4% if your broker forgoes trailing commission.

(D) The higher rate is for payment by instalment, the lower rate for a lump sum; discounted by 0.4% if your broker forgoes trailing commission.

CHOICE verdict

A reverse mortgage should be a last resort. However, if you do decide one is for you:

Plan for the long term An ASIC report last year on consumer experiences with reverse mortgages found very few borrowers did any long-term planning. If you take out a large reverse mortgage at a relatively young age, the loan will increase over the long term and reduce your options. And will you really be happy to stay in your home until you die? Won't your needs change in 10 or 20 years?

Delay taking out a reverse mortgage as long as you can and only take what you really need.

Taking smaller amounts over a period of time, rather than a lump sum, will reduce the interest you pay.

Plan your exit strategy Keep track of your loan statements. Don't miss the point where you can get out of the loan by selling your home and have enough money left for whatever you want to do.

Seven loans now meet **CHOICE** standards and give you better protection against losing your home.

Occasional treats



Drink sparingly



No more than 1 serve a day



Drink moderately



Drink plenty



nutshell

► Making wise choices about what to drink is just as important as eating the right foods.

The drinks pyramid works like the well-known Healthy Food Pyramid — you drink more of the drinks on the bottom, and less of the ones further up.

The first reason what you drink matters is kilojoules. Drinks can be a substantial source of them — the more you drink of those higher up the pyramid, the greater the chance you have of gaining weight, often with little nutritional gain. The second reason is tooth decay: drinks high in sugar and acidity can lead to it.

Drink plenty

Water There's no real need for any drink in your diet other than water. It's kilojoule-free, fat-free and sugar-free. Drink as much as you like.

Drink moderately

Reduced and low-fat milk, tea and coffee Milk provides valuable nutrients. Children under two should drink full-fat milk, but for everyone else, reduced-fat or skim milk is the best choice.

Minus milk and sugar, tea and coffee are very low in kilojoules, and contain antioxidants (especially green tea) that help protect against cancer and heart disease. Most herbal teas don't contain any antioxidants, unlike real tea. And steer clear of large sweetened coffees or coffee-style drinks — they're full of kilojoules.

Drink to your health

You've heard of the healthy food pyramid — now here's the healthy drink pyramid, dedicated to quenching your thirst in the best possible way.

No more than one serve a day

Fruit juice, full-fat milk, diet soft drinks and sports water Full-fat milk contains a lot of kilojoules and saturated fat. Whole fruit juiced provides vitamins and minerals, but eating whole fruit is a better option as you get the fibre too. Juice can have the same amount of sugar and kilojoules as soft drink.

The problem with diet soft drinks and sports water is their acid content, which can lead to tooth decay.

Drink sparingly

Alcohol and sports drinks Until recently, up to three standard alcoholic drinks a day for men and two for women was the recommendation. The guidelines are currently under review, and it's being recommended adults have two or fewer drinks per day — any more than this and you increase your risk of problems such as heart disease and cancer. Alcohol isn't good for your waistline either, providing kilojoules without nutrition.

Unless you're an elite athlete, sports drinks aren't necessary and water is a better choice during and after exercise.

Occasional treats

Soft drink, fruit drinks and energy drinks Soft drinks and fruit drinks such as cordial are acidic and high in sugar and kilojoules. A report reviewing research conducted into the link between high-sugar drinks and children's weight gain found that 11 of the 16 studies showed consuming sugary drinks increased the risk of obesity.

Energy drinks contain as much caffeine as coffee and are also high in kilojoules and sugar. ■

On test

Home entertainment, whitegoods, household and personal appliances — they're all tested here.



CHOICE has its own testing laboratories, where experienced technical staff put products through their paces. We use test methods from Australian standards, as well as developing our own in order to match the way consumers use a product in reality. We buy most of the products we test, to maintain our independence from manufacturers and so that we know what you're faced with in the shops. Our recommendations are based on a product's quality and performance, with no hidden bias.

Inside

- 38 Mid-priced vacuum cleaners



- 44 Flame-effect heaters



- 47 Digital cameras



Plus

- 42 Bathroom cleaners
56 All-in-one printers
60 Speaker docks

For more product tests go to choice.com.au



No need to pay more

Mid-priced vacuum cleaners — better than the cheaper models and as good as most of the expensive ones.

nutshell

► If you're considering an expensive vacuum, think again: the top mid-priced cleaners in this test perform just as well.

► A turbo head decreased cleaning performance, while a power head improved it but is bulkier and heavier.

You could fork out more than \$1000 or as little as \$70 for a vacuum cleaner, but how much do you really need to spend for a good machine? CHOICE tested 15 vacuum cleaners costing between \$400 and \$600 (when we bought them) to find the best performers in this price range, and whether mid-priced vacuum cleaners could match the ability of their pricier rivals.

All up, we found nine good models that scored 70% or better — making our *What to buy* list a long one. Our top model, the ELECTROLUX Oxygen+, is a good all-rounder, but if \$599 is stretching the budget, the MIELE S5210 and the NILFISK Power are only \$399.

All the recommended models are barrel types, which are easier to move over carpet and reach under low furniture than upright vacuum cleaners. One of the uprights, the HOOVER Windtunnel, had the best dirt removal score of 70%. Unfortunately, it isn't as easy to use as our recommended models and left noticeable scratch marks on a wooden floor.

How do they compare?

Previous tests have shown that vacuum cleaners clean a hard floor well, so now we only test for scratching, not dirt removal. So the overall score in this test can't be compared with previous tests, but the dirt removal from carpet score can be compared between price ranges.

In contrast with the cheaper models (\$73–\$180) CHOICE tested in October 2007, these vacuum cleaners are, on average, better at removing dirt from carpet. On the downside, they're heavier and bulkier to carry, which makes life more difficult if there are a lot of stairs in your house. They usually have a longer power cord, though, so you don't have to change power points as often.

When compared to the more expensive models (\$599–\$999) in our June 2007 test, there's not a lot separating them in performance and ease of use, so you don't need to pay more. The best models in both tests for dirt removal from carpet both scored 70%. If you're looking beyond the cheap end of the market, this price range is where to spend your money.

What to buy

ELECTROLUX Oxygen+ Z7351

PRICE \$599

GOOD POINTS

- Very easy to use.
- Telescopic wand, variable power and HEPA filter.
- Very good at cleaning corners and edges.
- Excellent reach from the power point.
- Excellent controls located on the wand.

BAD POINTS

- No onboard storage for the upholstery tool.
- Comparatively heavy.



MIELE S5210

PRICE \$399

GOOD POINTS

- Very easy to use.
- Variable power and telescopic wand.
- Very good at cleaning corners and edges.
- Very good reach from the power point.

BAD POINTS

- Nothing in particular.



BEST BUY

MIELE Medicaire 5000 Plus S5280

PRICE \$599

GOOD POINTS

- Very easy to use.
- Telescopic wand, variable power and HEPA filter.
- Very good reach from the power point.
- Very good at cleaning corners and edges.

BAD POINTS

- Nothing in particular.



What's in a head?

As well as their standard heads, the NILFISK Extreme Power and SAMSUNG Twin Chamber System come with a turbo head and the HOOVER Hygiene with a power head. We tested these heads separately from their standard head and both scores are in the table.

A turbo head has a rotating brush driven by air flow, while a power head uses an inbuilt motor. Both claim to enhance cleaning performance. But in our test, turbo heads decreased performance, possibly because suction is lost driving the brush. The HOOVER Hygiene's power head almost doubled its performance score. The ELECTROLUX Oxygen+, which only has a power head, was the best for dirt removal. The downside of a power head is that it's generally bigger and bulkier than a standard head and harder to manoeuvre — you lose out on ease of use to gain extra cleaning performance. >

FOR PEOPLE WITH A DISABILITY

None of the vacuum cleaners is ideal for someone with a disability, but the DYSON DC19 and the ELECTROLUX Oxygen+ can be recommended with some reservations.

The ELECTROLUX has the on/off and variable power switches located on the wand, so no bending down is required, making it good for people in a wheelchair. The cleaning head is also easy to move on the carpet and the paper bag is easy to change. But it's heavy at 9.3 kg.

For people with back pain, the DYSON is lightweight and the cleaning head is easy to move on the carpet. The bin is also easy to empty. The on/off switch is located on the cleaner, however, so it's not as convenient to use as the ELECTROLUX.

Most of these models have a long power cord, so you don't have to change power points often.

What to buy

NILFISK Power P40

PRICE \$399

GOOD POINTS

- Very easy to use.
- Telescopic wand and HEPA filter.
- Excellent reach from the power point.

BAD POINTS

- Turbo brush causes a 5% drop in cleaning performance.



DYSON DC19

PRICE \$599

GOOD POINTS

- Very easy to use.
- Telescopic wand.
- Excellent cleaning under low furniture.
- Very good reach from the power point.
- Very good at cleaning corners and edges.

BAD POINTS

- High-pitched noise can be irritating.



LG Kompressor V-KC902HTM

PRICE \$749

GOOD POINTS

- Very easy to use.
- Telescopic wand, variable power and HEPA filter.
- Very good at cleaning corners and edges.
- Excellent reach from the power point.
- Excellent controls located on the wand.

BAD POINTS

- No onboard storage for tools.



NILFISK Extreme Power X150

PRICE \$499

GOOD POINTS

- Telescopic wand and HEPA filter.
- Comparatively quiet operation.
- Excellent reach from the power point.

BAD POINTS

- Fiddly to change the paper bag.
- Comparatively heavy.



SAMSUNG Twin Chamber System SC8551

PRICE \$549

GOOD POINTS

- Very easy to use.
- Telescopic wand, variable power and HEPA filter.
- Excellent reach from the power point.
- Excellent controls located on the wand.

BAD POINTS

- No onboard storage for tools.
- Turbo brush causes a 7% drop in cleaning performance.



MIELE S5310

PRICE \$499

GOOD POINTS

- Telescopic wand; variable power.
- Very good reach from the power point.

BAD POINTS

- Very difficult to change the cleaning head setting from carpet to hard floor.



Turbo and power heads claim to enhance a vacuum's cleaning ability, but turbo heads performed poorly in our test.

About the rest

- The cleaning heads of the upright **SAMSUNG Jetpropel SU8551** and **HOOVER Windtunnel U5435-906** are hard to move over the carpet, which becomes tiring with prolonged use. The **HOOVER** also left scratch marks on the wooden floor, but had the best dirt removal score on carpet.
- The **ELECTROLUX Cyclone XL ZCX6202** and **NUMATIC Hetty HET 200-22** scored only 48% and 51% respectively for dirt removal. The paper bag for the **NUMATIC** was also fiddly to change.
- The **HOOVER Hygiene VC358** is very easy to use but poor at picking up dirt from the carpet with the standard head. With the power head attached, though, it was one of the best. However, it scored poorly for cleaning corners and edges.
- The **VAX Zero VX VZ-801** was the poorest of all at picking up dirt from the carpet, scoring just 31%.

HOW WE TESTED

Dirt removal Our tester embedded a set amount of sand evenly in a section of carpet, vacuumed it (with the machine's standard head) using a set pattern and speed, then weighed the sand collected and recorded it as a percentage of the amount applied. If a vacuum cleaner also came with a power or turbo head, he tested that too.

Scratch test With the vacs set to the hard-floor setting, our tester ran them back and forth 50 times over a lacquered fibre board to see whether they left scratch marks.

Cleaning corners and edges

He spread sand into a 90° corner and vacuumed it to see how well the machines cope with corners and edges.

Ease of use The tester assessed the cleaners' general mobility and head movement, their controls, tools and versatility. He checked how easy they are to fit under low furniture and how easy the dust collectors are to empty and/or change.

Noise He also measured the cleaners' noise level at the user's position. Some cleaners have a high-pitched whistle that can be irritating, even though they're no louder than others.



PHOTOGRAPHY: GENE ROSS

PRODUCT		PERFORMANCE						FEATURES			
Brand / model (in rank order)	Type	Overall score (%) ^a	Dirt removal from carpet score (%) ^a	Scratch test score (%)	Cleaning corners and edges score (%)	Ease of use score (%)	Noise (dB)	Dust collector	Dusting brush	Onboard tool storage	Variable power
Electrolux Oxygen+ Z7351	Barrel	79 (B)	69	100	80	83	65	Paper bag	✓	✓ (D)	✓
Miele S5210	Barrel	76	64	100	80	80	66	Paper bag	✓	✓	✓
Miele Medicalre 5000 Plus S5280	Barrel	76	64	100	80	80	66	Paper bag	✓	✓	✓
Niifisk Power P40	Barrel	75 / 73 (T)	61 / 56 (T)	100	74 / 80 (T)	83	64	Paper bag	✓	✓	✓
Dyson DC19	Barrel	74	57	100	82	85	70	Bin	✓	✓	✓
LG Kompessor V-KC902HTM	Barrel	74 (C)	58	100	84	80	68	Bin	✓	✓	✓
Niifisk Extreme Power X150	Barrel	74	66	100	74	73	62	Paper bag	✓	✓	✓
Samsung Twin Chamber System SC8551 (A)	Barrel	74 / 69 (T)	61 / 54 (T)	100	74 / 55 (T)	80	67	Bin	✓	✓	✓
Miele S5310	Barrel	73	60	100	75	78	67	Paper bag	✓	✓	✓
Samsung Jetpropel SU8551	Upright	68	59	100	66	67	78	Bin	✓	✓	✓
Electrolux Cyclone XL ZCX6202	Barrel	67	48	100	75	77	69	Bin	✓	✓	✓
Hoover Windtunnel U5435-906 (A)	Upright	64	70	50	54	65	78	Paper bag	✓	✓	✓
Numatic Hetty HET 200-22	Canister	63	51	100	65	63	66	Paper bag	✓	✓	✓
Hoover Hygiene VC358	Barrel	62 / 79 (P)	38 / 73 (P)	100	40 / 48 (P)	87	72	Paper bag	✓	✓	✓
Vax Zero VX VZ-801	Upright	56	31	100	71	68	76	Bin	✓	✓	✓

What to look for

VACUUM CLEANER BASICS

- Dust collector** The vacuum cleaners in this test have either a bin or a paper bag, and they were all easy to empty. The advantage of a bin over a paper bag is that it has no ongoing costs.
- Tools** The standard tools to check for are dusting, crevice and upholstery brushes, and having onboard storage for them all makes it easier not to lose them and to keep them handy for when you need them. All the models come with crevice and upholstery tools, and all but the ELECTROLUX Cyclone with a dusting brush.

Telescopic wand This lets you adjust the wand to suit your height, so you don't have to bend too much. All but the three uprights (the HOOVER Windtunnel, SAMSUNG Jetpropel and VAX Zero) and the NUMATIC Hetty have this feature.

Variable suction/power This allows you to lower the suction for more delicate jobs, such as cleaning curtains.

HEPA filter This stands for high-efficiency particulate air filter — an international standard for filters that trap particles — which can help if you have asthma, a dust allergy or are sensitive to dust. Some can be washed, but on other machines you have to replace the filter regularly (about once a year at a cost of around \$50) to ensure it works efficiently.

TESTER	SPECIFICATIONS				
	Power measured at maximum speed (W)	Reach (m)	Weight (kg)	Contact	Price (\$)
	1730	12.0	9.3	www.electrolux.com.au	599
	1740	9.7	7.8	www.miele.com.au	399
	1770	9.7	8.0	www.miele.com.au	599
	1440	11.5	8.6	www.nilfisk.com.au	399
	1210	9.5	8.0	www.dyson.com.au	599
	1520	12.2	8.9	http://au.lge.com	749
	1670	10.5	10.1	www.nilfisk.com.au	499
	1470	10.0	7.7	www.samsung.com.au	549
	1700	9.7	8.1	www.miele.com.au	499
	1270	10.0	9.6	www.samsung.com.au	449
	1320	8.8	6.8	www.electrolux.com.au	399
	1260	10.6	8.2	www.hooverfloorcare.com.au	499
	1060	13.0	8.7	www.intervac.net.au	459
	1700	8.3	8.0	www.hoover.com.au	549
	1380	7.5	9.0	www.vax.com.au	599

USING THE TABLE

Scores The overall score is made up of:

- Dirt removal: 45%
- Scratch test score: 15%
- Cleaning corners and edges: 10%
- Ease of use: 30%

Features See *What to look for*, above, for more on the features in the table.

Measured power Higher power doesn't guarantee better cleaning performance, as the table shows.

Price Recommended retail, as of February 2008. Some of the models have gone up considerably in price since we bought them, when they all cost between \$400 and \$600.

TABLE NOTES

P Power head.

T Turbo brush.

* The second number shows the score when using the additional power head or turbo brush.

(A) Discontinued, but may still be available in some shops.

(B) Its standard head is a power head.

(C) Its standard head is a turbo head.

(D) For the crevice tool and dusting brush only. All models come with crevice and upholstery tools.

Some cleaners have a high-pitched whistle that can be irritating, so try it in the store before buying.



Bleach and destroy

How did seven popular bathroom cleaners scrub up when 120 CHOICE Home Testers put them through their paces in real life?

nutshell

▶ Three out of the top four products were very effective at cleaning mould — but they had a strong, unpleasant bleach smell.

▶ Bi-carb is an alternative to harsh chemicals, but requires a lot more effort.

In CHOICE's latest test of bathroom cleaners, our hard-working home trialists scrubbed their bathrooms clean with seven widely available commercial bathroom cleaners that claim to remove and/or prevent mould and soap scum buildup. Bi-carb soda was also included in our trial as a 'natural' cleaning alternative.

Our trialists thought four cleaners produced the best results. While three of them (DOMESTOS, WHITE KING and SELLEYS Rapid Mould Killer) were very good at tackling mould, trialists found their smell rather unpleasant. PINE O CLEEN, on the other hand, which was the best at soap scum removal but not so good on mould, received a better fragrance score of 67%.

Although SELLEYS Rapid Mould Killer rated above average for its effectiveness at removing mould, 42% of trialists reported experiencing some form of minor irritation when using it, such as irritated nose or throat, stinging skin and feeling nauseous.

Protect yourself

The commercial cleaners that had the strongest smell and were more likely to cause mild or severe irritation in trialists were the sodium hypochlorite/sodium hydroxide-based cleaners — AJAX, SELLEYS, DOMESTOS and WHITE KING. Sodium hypochlorite, a liquid bleach with several uses, such as chlorinating pools and purifying drinking water, is a corrosive chemical that can cause skin and eye irritation and burns upon contact.

HOW WE TESTED

120 CHOICE Home Testers were each sent three mould and soap scum cleaners to use and evaluate. They used their usual cleaner to clean their bathroom before the trial, then used a test product once a week for three weeks. They were given the appropriate face mask, goggles and gloves for the job, which is outlined on the product's packaging (we couldn't obscure the cleaners' brand names because trialists needed to see the safety instructions).

Trialists were asked to rate each product for its effectiveness at removing mould and soap scum, its ease of use and its smell, and to give it an overall rating. Each product was tested an average of 44 times. The average score for each product was then converted to a percentage.

The TGA's National Drugs and Poisons Schedule Committee has set out warning and safety phrases that must appear on household cleaners' packaging. Follow these warnings when using the products: wear appropriate protective clothing, gloves and eye protection, ensure there's adequate ventilation in your bathroom to minimise inhaling harmful fumes, and rinse the residue away thoroughly.

According to a study published in the *American Journal of Respiratory and Critical Care Medicine*, frequent use of household cleaning sprays (at least once a week) may be an important risk factor for adult asthma. The study found no associated risk with non-spray products, which don't generate an irritating mist.

Au naturel

ORANGE POWER Shower, Bath & Tile Cleaner claims to be "the greener cleaner ... that really works!" — but, unfortunately, as a mould and soap scum remover it only scored 59% overall. On the upside, trialists thought it was easy to use, non-irritating and had the most pleasant smell of all the commercial products. It claims to use natural orange oil and fruit acids and is free of bleach, chlorine, ammonia and phosphates.

Trialists sprinkled MCKENZIE'S Bi-Carb Soda, a self-proclaimed 'natural' cleaner and deodoriser, onto surfaces and scrubbed with hot water. Many found this more time-consuming than their regular cleaner — and they weren't too impressed by its cleaning capabilities either. While it's non-irritating and has an undetectable smell, trialists found it less effective at removing both mould and soap scum. ■

! MISSED YOUR BRAND?

While we tried to include the most popular brands on the supermarket shelf, we faced a couple of setbacks. We couldn't test EXIT MOULD and EASY OFF BAM as they were being reformulated at the time of our trial. WINDEX also wasn't included as it doesn't have a combined product for mould and soap scum.

What to buy

BEST
BUY

DOMESTOS Regular

PRICE \$3.40 per 500 mL

This was highest-rating product overall — the only one to rate significantly higher than average — and it also rated above average for mould removal. It's also the cheapest of the top-rated products. It's the only product in the trial except the bi-carb that's poured rather than sprayed, which may account for its lower ease of use score. Trialists also noted a strong bleach-like smell.

TRIALIST COMMENTS

"Wonderful on tiles. Really gets the grime out..."
 "Cleans very well and forms a good lather..."
 Left a persistent bleach smell."



PINE O CLEEN Bathroom Power Foam

PRICE \$4.58 per 500 mL

PINE O CLEEN was the only product rated above average for its effectiveness at removing soap scum and for taking less time to use than trialists' usual products. It was also rated above average for ease of use and the appeal of its smell, but it only scored 56% for mould removal. Few trialists reported experiencing any irritation while using this product.

TRIALIST COMMENTS

"Very easy to apply, especially on baths, and it's all clean literally within seconds. No fumes or hands smelling like bleach for the rest of the day. Love it!"
 "Didn't last as long as the White King."



WHITE KING Bathroom Power Foam

PRICE \$4.79 per 500 mL

WHITE KING, called a 'max strength' cleaner, was above average for its effectiveness at removing mould, and trialists reported that less soap scum than usual had accumulated one week after using this product. However, it rated below average for ease of use and several trialists noted that the pump was difficult to adjust to get a good spray. Many trialists found the bleach smell overwhelming and 7% experienced serious irritation from this product.

TRIALIST COMMENTS

"Good to remove stubborn stains."
 "The smell/fumes were overpowering and very unpleasant. The smell remained in the bathroom for close to a day."



SELLEYS Rapid Mould Killer

PRICE \$4.78 per 500 mL

This product rated above average for removing mould and trialists reported that less soap scum than average had accumulated one week after using it. However, 42% of trialists reported experiencing minor irritation such as irritated nose or throat, stinging skin and feeling nauseous, as a result of using this product.

TRIALIST COMMENTS

"Worked very quickly, easy to use. Almost no scrubbing needed. Removed mould quickly. Quite strong chlorine smell, which stayed around for ages."
 "Cleaned and removed mould straightaway, also effective at removing soap scum. Very strong odour — wearing a mask and gloves is a must."



PRODUCT	SCORES					PRICE
Product (in rank order; number of trialists in brackets)	Overall score (%)	Effectiveness — mould score (%)	Effectiveness — soap scum score (%)	Fragrance score (%)	Ease of use score (%)	Price per 500 mL / g* (\$)
Domestos Regular (40)	70	72	72	39	59	3.40
White King Bathroom Power Foam (42)	67	75	70	35	56	4.79
Pine O Cleen Bathroom Power Foam (45)	66	56	75	67	73	4.58
Selleys Rapid Mould Killer (44)	65	73	69	37	69	4.78
Ajax Professional Mould Remover (47)	61	75	68	38	72	5.39
Orange Shower, Bath & Tile Cleaner (47)	59	46	63	74	73	3.20
Shower Sparkle (42)	54	51	53	61	74	2.34
McKenzie's Bi-Carb Soda (41)	49	46	54	63	43	1.72

About the rest

The table gives a summary of performance scores for all tested products. For the products that didn't make it into the *What to buy* list, some considerations include:

- AJAX Professional Mould Remover was effective at removing mould but 43% of trialists reported irritation after using it.
- SHOWER SPARKLE rated below average for effectiveness on both mould and soap scum, but trialists liked its smell and few reported skin irritations.
- For comments on the 'greener' cleaners, ORANGE SHOWER POWER Bath & Tile Cleaner and MCKENZIE'S Bi-Carb Soda, see *Au naturel*, far left.

TABLE NOTES

* Based on what we paid in September 2007.



Put another watt on the fire

Sometimes, where there's fire there's no smoke.

nutshell

- ▶ All these models will heat a medium-sized room (depending on insulation and the climate where you live) and look good doing it.
- ▶ Safety features you'd expect to see on an electric convection heater are missing on many of these models.

Of all the electric heaters sold last winter in Australia, heaters with a flame effect were the only category to enjoy a significant increase in sales. CHOICE tested seven models that deliver the old-world charm of a roaring fire without the smoke.

These heaters go under the names of 'flame effect', 'electric fireplace' or 'focal point' heater. Whatever the name, the purpose of these products is to look like a traditional wood- or coal-burning fire without the mess. The look is so integral to their overall purpose you can even put the flame effect on without generating any heat.

Naturally, opinions will differ about which heaters and flame effects look best. Our testers commented on the flame effects, such as finding them too strong, not strong enough, lazy and even "revolting". So we recommend viewing a couple of the models in operation before deciding which flame-effect heater you want — after all, you could be watching it all winter.

As for the actual heating, all the models CHOICE tested use a fan — with two settings, half and full — to distribute hot air through an outlet at the base of the heater.

These heaters can also be an option for areas of the house where unflued gas heaters can't be used, such as a bedroom. However, the lack of some basic safety features is of concern.

For safety's sake

All these models would be better with some simple safety features. The installation of an inexpensive tilt cutout switch would mean the heaters would automatically turn off once an angle of incline past a certain limit was reached. Instead, when we placed the heaters on their back and front, most of the models continued to operate. The heaters with thermostats continued to turn on and off. The models without thermostats continued to heat, except the DIMPLEX Allegri, which turned off through the use of a thermal cutout switch when on its front (but not when on its back), and stayed off.

None of the heaters was damaged or caused other damage when this test was carried out on a bare concrete floor. However, the result could be different if this happened in a carpeted area or if someone fell on one and was unable to roll away.

All the heaters passed our towel drape test (see *How we tested*, page 46) without incident except the FLAMEGLOW FG450, whose front legs melted after only four minutes, before the heater turned off. We'll test a second sample when it's available. This is the only FLAMEGLOW model with plastic feet. The DELONGHI Garda and DIMPLEX Brayford also have plastic feet but weren't damaged in the test. >

PRODUCT	PERFORMANCE				SAFETY				FEATURES			
Brand / model (in rank order)	Overall score (%)	Heating score (%)	Ease of use score (%)	Noise with fan and flame effect on	Towel test	Tilt stability test	Switched off when tipped over	Thermal cutout	Thermostat	Castors	Flame effect only	Flame dinner
Delonghi Garda	76	83	60	Medium	No damage	Pass	No	✓	✓		✓	
Dimplex Lee20	71	74	63	Medium	No damage	Pass	No	✓	✓	✓		✓
FlameGlow FG250	69	75	55	Medium	No damage	Pass	No	✓	✓		✓	✓
FlameGlow FG350	69	75	55	Medium	No damage	Pass	No	✓	✓		✓	✓
FlameGlow FG450	68	76	50 (A)	Front legs melted	Pass	No	✓	✓	✓		✓	✓
Dimplex Allegri ALG20	64	69	53	Quieter	No damage	Fail (forward)	No (B)	✓	(C)	✓	✓	
Dimplex Brayford BFD20	58	64	45	Medium	No damage	Pass	No	✓	(C)		✓	

What to buy

DELONGHI Garda

PRICE \$250

GOOD POINTS

- Fastest to heat the test room by 5°C and 10°C.
- The thermostat kept the selected room temperature stable.
- The surface didn't get as hot as the other models.
- Good-length electrical cord.

BAD POINTS

- No tilt cutout switch.
- No flame dimmer control.
- The noisiest heater with flame effect on and no heat.



DIMPLEX Lee20

PRICE \$300

GOOD POINTS

- The most even heat distribution in the test room.
- Easy to clean.
- Castors allow movement on a hard surface without lifting the heater.
- Good-length electrical cord.

BAD POINTS

- Controls are more difficult to use than the other models.
- No tilt cutout switch.



< The user manuals of the DELONGHI Garda and FLAMEGLOW heaters clearly warn against using an extension lead, due to the danger of overheating the cord. So why would FLAMEGLOW make a heater with a power cord that's just 1.1–1.2 m long? This short cord length may force you to place the heater away from an ideal heating position to reach an available power outlet.

Cosy choices

Either one of our top two scoring models should provide you with a good mix of heating performance and cosy ambience during the winter months.

The DELONGHI Garda heater operates at 1250 W or 2400 W, compared with the rest of the heaters at 1000 W or 2000 W. As a result, it delivers more heat than the other models and is faster to raise the temperature of a room. However, it's also noisier than the other models when using the flame effect without the heater function.

If you don't want the traditional cast-iron-stove style, the DIMPLEX Lee20's modern brushed-metal look combined with a good heating performance is a good option. Castors also make it easier to move the heater from room to room.

Our price checks found quite a lot of variability, so it pays to shop around. >

About the rest

- The FLAMEGLOW heaters certainly look substantial and include the two heaviest models on test. However, you need to have a power point close by, as the cords are only just over 1 m in length.
- The DIMPLEX Brayford is the lightest heater in the test. However, it and the DIMPLEX Allegri don't have a thermostat to regulate the desired temperature and so can't be recommended.

USING THE TABLE

Scores The overall score is made up of:

- Heating: 70%
- Ease of use: 30%

Price Recommended retail, as of April 2008. However, prices vary a lot, so shop around.

TABLE NOTES

(A) Developed a loud noise due to a faulty flame-effect grille and there was no time to test another sample.

(B) Turned off when tipped over onto its front but continued to heat when tipped onto its back.

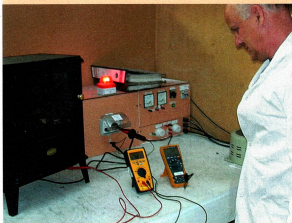
(C) As neither has a thermostat these were given a poor (40%) score for the thermostat performance portion of the heating score.

	SPECIFICATIONS					
Flame-effect models (standard candle type)	Dimensions (cm, W x H x D)	Weight (kg)	Cord length (m)	Contact	Price (\$)	
x 40 W	51 x 57 x 33	13.9	2.2	www.delonghi.com.au	250	
x 60 W	57 x 73 x 28	16.4	1.8	www.dimplex-australia.com	300	
x 40 W	45 x 58 x 30	16.3	1.2	www.flameglow.com.au	300	
x 25 W	59 x 68 x 34	20.5	1.2	www.flameglow.com.au	350	
x 25 W	62 x 63 x 37	18.3	1.1	www.flameglow.com.au	400	
x 60 W	43 x 66 x 28	15.3	2.0	www.dimplex-australia.com	200	
x 60 W	44 x 55 x 30	12.3	1.8	www.dimplex-australia.com	250	

Opinions differ about which heaters and flame effects look best — view before you buy as you could be watching it all winter.

Heaters that passed the towel drape test either turned themselves off or continued to heat without damaging the heater or the towel.

HOW WE TESTED



Our testers assessed the heaters' performance in a thermal comfort lab's test room. The room measured 4.9 m x 3.5 m with a 2.4 m high ceiling, and was enclosed in another temperature-controlled room, which was maintained at set temperatures during the various tests.

Heating speed How long did the heaters take to raise the room temperature by 5°C and 10°C from an ambient temperature of about 8°C?

Heat distribution How evenly did they heat the room?

Thermostat performance How much did the average room temperature fluctuate as the thermostat turned on and off? Tests were carried out with the heater

set at its highest heat setting and the thermostat set to give a nominal average room temperature of approximately 18°C. Heaters without a thermostat were given a poor rating for this part of the test.

Ease of use Our testers assessed the labelling of controls, the heaters' mobility and stability on hard surfaces and carpet, the cord storage, and the ease of cleaning.

Safety Testers checked the heaters' electrical safety, measured surface temperatures, and carried out the following tests:

- **Towel drape test** A towel was draped over the top surface of each heater, leaving any ventilation channels on the tops of the control end panels uncovered so that the thermostats would be properly cooled and the heaters continue operating normally – a worst-case scenario. The heaters were operated at their highest setting for at least 30 minutes. Heaters that passed this test either turned themselves off or continued to heat without causing damage to the heater or towel.
- **Tilt test** A test was carried out for each heater where it was tilted at an incline of 15°. The heater passed this test if it didn't tip over either forwards or backwards.
- **Tilt cutout test** Testers also checked which heaters switched off when tipped over, either using a thermal cutout or a tilt switch. The heater was left on its side for up to 30 minutes.

What to look for

HEATER BASICS

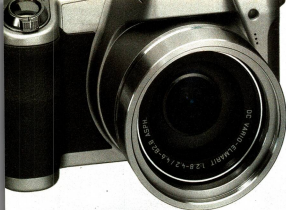
- **Cord length** Make sure the power cord of the heater will reach your power point, as using an extension lead isn't recommended.
- **Flame dimmer** For that extra level of ambience, some of the models allow you to change the flame level to suit your mood.
- **Incandescent light bulbs** are due to be phased out by 2010, and while compact fluorescents can be used in these heaters, the flame effect will be reduced.



Replacement bulbs All the heaters use standard clear candle-type light bulbs to create a flame effect and they're simple to replace. If a bulb goes out, all the models will continue to operate as a normal convection heater.



Controls These heaters have a fairly simple range of controls. Two heat settings and the ability to operate the flame effect without heating are common to all. A thermostat is very desirable, which switches the heating elements on and off to maintain a temperature.



Snap decisions

Bigger can be better, but it's only part of the picture.

nutshell

► Our top choices include models to satisfy big zoom-lens fans, as well as a model for people wanting a 'point and shoot' pocket-sized camera.
► Shutter-speed performance and camera start-up times are important issues to consider when choosing a camera.

Have you ever missed that perfect shot because your camera took forever to turn on? For many digital camera users, the delay between pressing the shutter button on a digital camera and the shot being taken can be very frustrating. Yet these issues are often not considered when looking for a new camera.

CHOICE tested 40 compact digital still cameras to find out not only which models had the largest zoom lens or highest resolution, but also which delivered the best images, started up quickly and captured a photo without delay. All are compact digital cameras, not single-lens reflex (SLR).

Performance figures on start-up times and shutter delay can be found in the table (page 50) to help you decide what cameras will satisfy your need for speed.

When looking at the zoom lens, it's not just the overall size of the lens that's important. If you mainly take photos of family and friends, using a camera with a lens that captures a wider view could mean the difference between getting the whole family into the wedding photo and missing a few cousins at the edge of the shot. A zoom lens that starts at 28 mm at the widest is ideal if you take a lot of group photos or landscapes.

If you like to capture more candid moments without getting too close to your subject, a telephoto lens will allow you to take the shot without intruding. The figures in the table for zoom range go from the widest angle to the farthest zoom, such as 28 mm or 460 mm — the lower the number, the wider the angle.

The top models

Of the models in the *What to buy* list, the PANASONIC Lumix DMC-FZ18 has a large zoom range and a hefty weight to match. It and the CANON PowerShot G9 and Olympus SP-560UZ are also the only cameras we tested that can capture photos as an uncompressed image file, which means sharper-looking images when printing large photos.

If you want a large zoom-lens range in a smaller package, the CANON PowerShot SX100 IS has a 10x optical zoom and good user control over exposure settings.

For point-and-shoot devotees it's hard to go past the CANON Digital Ixus 860 IS. Its short shutter delay, fast start-up and 4x zoom lens that starts at 28 mm make it an ideal camera to keep in the pocket at all times. >

What to look for

CAMERA BASICS

- **Resolution** In the table we give **effective resolution** and that's what you should look for when buying a camera. Some manufacturers quote the total number of pixels on the camera's sensor, which includes many that aren't included in the final image.
 - **Viewfinder** This can be very handy when composing your shot in bright sunlight.
 - **Exposure/playback** setting (usually accessed via a selection dial) places the camera into automatic, manual or movie mode, as well as a play mode to preview photos already taken.
 - **Image stabilisation** With longer lenses it can be difficult to hold the camera still, which can lead to slightly blurry pictures. Image stabilisation can help by adjusting internally for camera movement.
- Optical stabilisation** is where the lens elements move, while the less effective **electronic stabilisation** uses the camera's processor to help stabilise the image.
- **Delete button** (🗑️) allows you to look at the previous photo and remove it without having to switch to review mode.

On/off button It should be far enough away from the shutter button to avoid accidental pressing.



LCD monitor Most of the cameras in this test have no viewfinder to look through, but all have an LCD monitor on the back of the camera that can be used to preview the image before taking a photo.

Menu and function controls Quick access to these controls allows you to alter the camera to adapt to different situations. **Macro** (📷), **landscape** (🌄) and **flash** (💡) modes can be selected with a single press of a button.

A 'bridge' camera has a non-removable zoom lens with a large range, and is usually bigger and heavier than a compact camera.

What to buy



CANON PowerShot S5 IS

PRICE \$599

The Canon PowerShot S5 IS is a bridge camera (see *Jargon buster*, below) and has a large 12x zoom, a fast start-up time and good continuous shot performance, which will help you capture the fast-moving antics of kids, pets or sporting events. While the point-and-shoot performance is good, creative types will be rewarded with better images when using the manual exposure and program controls.

The price of a good set of rechargeable batteries should be factored in if you decide on the S5 IS as it only comes with alkaline batteries.

The LCD monitor can be tilted to take shots when holding the camera at an awkward angle and you can also use the viewfinder if conditions get too bright to see the monitor.

OVERALL
TOP
PERFORMER



CANON PowerShot SX100 IS

PRICE \$449

While it may not be small enough to carry in your shirt pocket, the Canon Powershot SX100 IS will fit in most handbags or coat pockets, and has a 10x optical zoom to cover most picture-taking situations. It's also the least expensive option in the *What to buy* list.

The price of a good set of rechargeable batteries should be factored in if you decide on the Canon PowerShot SX100 IS as it only comes with alkaline batteries.

COMPACT
BRIDGE
CAMERA



PANASONIC Lumix DMC-FZ18

PRICE \$769

Although not as bulky as the Canon PowerShot S5 IS, this PANASONIC bridge camera delivers an impressively large 18x optical zoom. Starting at a wide angle of 28 mm (ideal for family group shots and landscape photography), you can also capture lots of detail of distant subjects using the 505 mm setting at the other end. Moving through different exposure modes is easy, making it a good camera for a variety of situations, and it also works as a video camera in a pinch. Movies can be captured at 30 fps (frames per second) with resolution good enough to watch on a reasonably large TV.

BIG ZOOM
EASY TO USE

Jargonbuster @!?

Bridge camera A bridge camera is somewhere between an SLR (single-lens reflex camera), which traditionally has lots of features and a removable (and so replaceable) lens, and a compact camera, which usually has a fixed lens and fewer features. As a rule, bridge cameras have a fixed zoom lens with a large range and tend to be bigger than compact cameras, but not as big and heavy as some SLRs. Expect them also to be a good deal cheaper than SLRs.

Macro mode Often shown as a flower icon on the camera's menu, this allows you to capture images up close. It's ideal for subjects ranging from insects to jewellery.

About the rest

- The CANON Digital Ixus 950 IS and newer 960 IS deliver similar performance and features, with the main difference being the larger 12 megapixel (MP) resolution of the 960 IS. However, for most people it's not worth an additional \$150 for the extra pixels on the 960 IS.
- The PANASONIC Lumix DMC-FX100EG is the only model in the round-up with a combination of 12 MP resolution and a 28 mm wide-angle lens packed into a pocket-sized camera. However, the start-up time is slow and it lacks an optical viewfinder.
- Most of the cameras have little or no internal memory, apart from the SONY Cyber-Shot DSC-T2 with 4 GB — more than enough for hundreds of photos at the highest resolution.
- A slow shutter speed is often an advantage when shooting in low light, and the PANASONIC Lumix DMC-FX100EG and CASIO Exilim EX-V8 can go as slow as 60 seconds. But put your camera on a tripod when taking the shot or your photos are likely to turn out as unusable blurs.
- All the SONY and PENTAX cameras and the NIKON Coolpix 7700 allow you to set the ISO (light sensitivity) at 3200, compared with 1600 for most models. This gives you the option of taking a reasonable shot in very little light; however, the resulting image could be grainier than you'd like.
- The CASIO Exilim EX-Z1200 and RICOH Caplio RR750 won't allow you to set the ISO any higher than 400, which restricts their performance as soon as the clouds roll in.
- While the OLYMPUS µ790 SW is only an average performer for picture quality, what it does have is the ability to take more punishment than any other model in the test. Rated to take a drop from 1.5 m and waterproof to 3 m, it could be a good option if you have a history of punishing your camera gear. It can also survive temperatures as low as -10°C.
- The other models all have their good and bad points — check the table for scores and features.



CANON Digital Ixus 860 IS

PRICE \$599

You don't need a large camera to take great shots and the CANON Digital Ixus 860 IS holds its own in terms of picture quality and all-round usability. Although you can't control the shutter or aperture control manually and the colour accuracy isn't great in full automatic mode, you'll rarely get caught out, as the fast start-up time and short shutter delay make it a very good snappy camera when that perfect moment appears.

COMPACT PARTY CAMERA



CANON PowerShot G9

PRICE \$849

The CANON PowerShot G9 isn't a pocket camera solution, although it does have a more compact body than the other two bridge cameras in our *What to buy* list. The 12 MP resolution is good enough for poster-sized prints, and a fast minimum shutter speed and short shutter delay make it a good option for street photography, although the small zoom range could mean you have to be closer to the subject than you would with the CANON PowerShot S5 IS or PANASONIC DMC-FZ18.

HIGH-RESOLUTION BRIDGE CAMERA

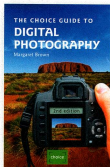
THE CHOICE GUIDE TO DIGITAL PHOTOGRAPHY

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HOW WE TESTED

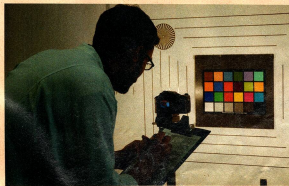
Image quality To compare the camera's images at their optimal quality, our testers captured photos indoors and outdoors, in both manual and automatic modes.

Accuracy Our testers also checked the accuracy of colour reproduction, and measured picture clarity and resolution (sharpness). A detailed examination was also made of the camera's ability to focus and deliver images with acceptable clarity in low-light situations.

Ease of use A panel of five people assessed how easy the tested cameras are to use, checking each camera's manual, viewfinder and monitor.

Versatility To find out how versatile each camera is, our testers looked at aspects such as memory, light sensitivity adjustment (ISO), white balance, shutter speed, exposure options, and viewfinder/monitor size and adjustment.

Battery life was measured by the number of photos you can take with freshly charged or new batteries,



when every second image taken uses the flash. Any camera that can take 250 photos on a fully charged set of batteries scored 100%.

Video Four 'highest-quality' movies were made, and our testers then scored them for resolution of detail, fluency of playback, picture noise and pixellation caused by compression.

Any camera that can take 250 photos on a fully charged set of batteries scored 100%.

Product	Performance									Features			Specifications		
	Overall score (%)	Auto image quality score (%)	Manual image quality score (%)	Ease of use score (%)	Versatility (%)	Viewfinder / monitor score (%)	Battery life score (%)	Flash score (%)	Movie quality score (%)	Manual aperture / shutter	Optical image stabilisation	Viewfinder	Effective resolution (megapixel)	Zoom range (35 mm equivalent)	Memory type
Brand / model (in rank order)															
Canon PowerShot S5 IS	69	53	58	71	84	66	100	68	47	✓ / ✓ / ✓	✓	✓	8	36-432	SDHC
Canon PowerShot SX100 IS	67	59	61	64	72	62	100	66	43	✓ / ✓ / ✓	✓		8	36-360	SDHC
Panasonic Lumix DMC-FZ18	66	56	54	72	72	58	93	66	36	✓ / ✓ / ✓		✓	8	28-505	SDHC
Canon Digital Ixus 860 IS	64	45	54	68	63	62	100	67	48	- / - / -	✓		8	28-105	SDHC
Canon PowerShot G9	64	50	58	61	83	49	96	75	48	✓ / ✓ / ✓	✓	✓	12	35-210	SDHC
Canon PowerShot A650 IS	62	51	55	56	82	42	100	69	53	✓ / ✓ / ✓		✓	12	35-210	SDHC
Canon Digital Ixus 950 IS	61	47	57	65	64	42	100	62	49	- / - / -	✓	✓	8	35-140	SDHC
Fujifilm FinePix S5800	61	54	56	58	58	58	100	71	28	✓ / ✓ / ✓		✓	8	38-380	SDHC / xD
Canon Digital Ixus 960 IS	59	51	58	62	64	41	85	57	46	- / - / -	✓	✓	12	36-133	SDHC
Casio Exilim EX-Z1200	59	51	57	62	54	52	100	48	34	- / ✓ / ✓	✓		12	37-111	SDHC
Panasonic Lumix DMC-FX100EG	59	52	53	62	52	53	94	65	33	- / - / -	✓		12	28-100	SDHC
Canon PowerShot A720 IS	58	48	56	62	77	38	59	69	41	✓ / ✓ / ✓	✓	✓	8	35-210	SDHC
Nikon Coolpix P5100	58	50	54	49	71	44	100	65	30	✓ / ✓ / ✓	✓	✓	12	35-123	SDHC
Olympus SP-560UZ	57	58	54	31	82	53	100	64	25	✓ / ✓ / ✓	✓	✓	8	27-486	xD
Sony Cyber-Shot DSC-T2	56	47	50	58	49	42	99	67	30	- / - / -	✓		8	38-114	MS Duo
Sony Cyber-Shot DSC-W200	56	50	55	60	54	38	96	54	20	- / ✓ / ✓	✓	✓	12	35-105	MS Duo
Pentax Optio V10	54	50	54	47	58	41	86	60	35	- / - / -			8	36-108	SDHC
Sony Cyber-Shot DSC-H3	54	40	42	61	50	38	94	69	29	✓ / ✓ / ✓	✓		8	38-380	MS Duo
Sony Cyber-Shot DSC-T70	54	43	49	62	46	43	72	72	32	- / - / -	✓		8	38-114	MS Duo
Fujifilm FinePix Z100fd	53	49	48	52	40	38	100	61	30	- / - / -	✓		8	36-180	SDHC / xD
Olympus µ820	53	47	39	55	46	52	86	64	23	- / - / -			8	36-180	xD
Pentax Optio M40	53	45	51	45	54	43	97	69	24	- / - / -			8	36-108	SDHC
Casio Exilim EX-V8	52	45	49	50	52	39	96	43	34	- / ✓ / ✓	✓		8	38-266	SDHC
Samsung NV20	52	46	54	43	41	47	97	61	28	- / ✓ / ✓			12	34-102	SDHC
Nikon Coolpix L12	51	50	43	51	52	41	70	72	27	- / - / -	✓		7.1	35-105	SDHC
Sony Cyber-Shot DSC-T200	51	43	43	63	42	47	49	67	32	- / - / -	✓		8	35-175	MS Duo
Nikon Coolpix P50	50	53	50	43	67	31	62	64	18	- / ✓ / ✓		✓	8	28-102	SDHC
Olympus µ790 SW	50	48	43	53	47	54	50	63	20	- / - / -			7.1	38-114	xD
Casio Exilim EX-Z77	49	35	37	53	49	33	100	47	32	- / - / -			7.1	38-114	SDHC
Kodak EasyShare ZD710	48	47	44	50	49	45	63	43	35	✓ / ✓ / ✓		✓	7.1	38-380	SDHC
Olympus µ1200	48	53	47	33	50	50	71	61	30	- / - / -	✓		12	35-105	xD
Pentax Optio Z10	48	43	48	52	60	39	41	62	23	- / - / -			8	38-266	SDHC
Samsung L730	47	45	46	41	39	39	71	73	33	- / ✓ / ✓			6.3	38-114	SDHC
Nikon Coolpix L15	46	53	53	44	46	42	27	60	19	- / - / -	✓		8	35-105	SDHC
Nikon Coolpix S510	46	50	51	24	47	40	80	70	22	- / - / -	✓		8	35-105	SDHC
Nikon Coolpix S700	46	56	58	24	54	44	57	58	35	- / - / -	✓		12	27-111	SDHC
Olympus FE-280	46	50	44	24	39	43	100	64	28	- / - / -			8	36-108	xD
Kodak EasyShare V1253	43	50	46	20	42	53	72	50	29	- / - / -			12	37-111	SDHC
Fujifilm FinePix F480	42	46	48	39	30	37	45	59	28	- / - / -			8	28-112	SDHC / xD
Ricoh Caplio RR750	37	50	51	20	29	42	46	41	8	- / - / -			7.1	35-105	SD

USING THE TABLE

Scores The overall score is made up of:

- Image quality (auto and manual are equal): 30%
- Ease of use: 25%
- Versatility: 12%
- Viewfinder/monitor: 12%
- Battery life: 10%
- Flash: 8%
- Movie quality: 3%

Features See *What to look for*, page 47, for more on features.

Viewfinder A viewfinder provides an alternative to the LCD monitor when taking a shot in bright conditions.

Effective resolution This calculation is based on the number of pixels in the largest image the camera can produce.

Zoom range A 35 mm equivalent figure indicates a range comparable to a 35 mm film-based camera.

Memory type

- xD: xD Card.
- MS Duo: Small-format version of Memory Stick from Sony.
- SD: Secure Digital card.
- SDHC: Secure Digital High Capacity is an extension of the SD card format with a larger capacity up to 32 GB, and looks exactly the same as an SD card. However, cameras that take SD cards only won't recognise an SDHC card.

Batteries Li-ion batteries are rechargeable. None of the cameras that takes Li-ion batteries can also use normal alkaline batteries. Those that say 'AA' can use alkaline, lithium or rechargeable 'AA' batteries.

Shutter delay The time it takes from the moment the shutter button is pressed to the moment the picture is taken. A time is included to indicate the delay when focusing on a subject at close range (1 m) and medium range (10 m).

Start-up time The time delay between turning on the camera and being ready to take a photo.

Delay between continuous shots measures the time taken from the shutter release on one shot to the shutter release of another in continuous shooting mode.

Price Recommended retail, as of March 2008.

TABLE NOTES

na Not applicable — these models don't have continuous shooting mode.

CAMERA CONTACTS

Canon www.canon.com.au, 1800 021 167

Casio www.casio.com.au

Fujifilm www.fujifilm.com.au, 1800 226 355

Kodak www.kodak.com.au, 1800 267 588

Nikon www.nikon.com.au, 1300 366 499

Olympus www.olympus.com.au, 1300 659 678

Panasonic www.panasonic.com.au, 13 26 00

Pentax www.pentax.com.au

Ricoh www.ricoh.com.au, 1300 363 741

Samsung www.samsung.com.au

Sony www.sony.com.au

Battery type	Monitor size (mm, W x H)	Shutter delay for 1 m / 10 m (sec)	Start-up time (sec)	Delay between continuous shots (sec)	ISO (light sensitivity)	Dimensions (cm, W x H x D)	Weight (grams)	Price (\$)
4 x AA	50 x 37	0.4 / 0.5	1.92	0.66	80–1600	12 x 8.5 x 9	620	599
2 x AA	50 x 37	0.5 / 0.6	2.64	0.71	80–1600	11 x 7.5 x 5	340	449
1 x Li-ion	49 x 37	0.3 / 0.4	2.69	1.14	100–1600	12.5 x 7.5 x 11	450	769
1 x Li-ion	60 x 45	0.2 / 0.3	1.58	0.72	80–1600	9.5 x 6 x 3	181	599
1 x Li-ion	60 x 45	0.2 / 0.9	2.26	0.87	80–1600	11 x 7.5 x 4.5	390	849
4 x AA	50 x 37	0.2 / 1.0	2.35	0.95	80–1600	11.5 x 7 x 4.5	420	499
1 x Li-ion	50 x 37	0.5 / 0.4	1.90	0.72	80–1600	9.5 x 6 x 3	190	499
4 x AA	51 x 38	0.6 / 0.6	2.43	1.96	64–1600	11 x 7.5 x 10	470	329
1 x Li-ion	50 x 37	0.5 / 0.7	2.00	0.72	80–1600	10 x 6.5 x 3	200	649
1 x Li-ion	60 x 38	0.5 / 0.6	2.93	2.34	50–400	9.5 x 6 x 2.5	180	599
1 x Li-ion	49 x 37	0.5 / 0.5	3.23	1.50	080–1600	9.5 x 6 x 3	174	829
2 x AA	50 x 37	0.7 / 0.6	2.03	0.75	80–1600	10 x 7 x 4.5	270	329
1 x Li-ion	50 x 37	1.0 / 1.0	3.55	3.14	64–2000	10.5 x 7 x 4	250	599
4 x AA	49 x 37	1.1 / 1.4	3.56	0.85	50–3200	12.5 x 8 x 9	540	599
1 x Li-ion	54 x 41	0.3 / 0.5	2.87	0.49	80–3200	9 x 6 x 2.1	154	599
1 x Li-ion	50 x 37	0.5 / 0.8	2.87	0.99	100–3200	9.5 x 6 x 3	170	699
1 x Li-ion	61 x 46	1.1 / 1.0	3.90	1.88	50–3200	10.6 x 2	137	299
1 x Li-ion	50 x 37	0.4 / 0.5	2.71	0.47	100–3200	11.5 x 7 x 6	340	449
1 x Li-ion	65 x 37	0.2 / 0.3	2.50	0.49	80–3200	9.5 x 6 x 2.1	154	499
1 x Li-ion	54 x 41	0.5 / 0.5	3.11	2.73	64–1600	9.5 x 6 x 2.2	152	399
1 x Li-ion	54 x 40	0.6 / 0.5	3.29	na	50–1600	10 x 6 x 2.5	140	349
1 x Li-ion	50 x 37	0.9 / 0.9	7.58	1.81	50–3200	10.5 x 6 x 2	132	249
1 x Li-ion	50 x 37	0.8 / 1.0	1.85	2.37	50–800	9.5 x 6 x 3	178	599
1 x Li-ion	50 x 37	1.1 / 1.1	3.19	1.68	80–1600	9.5 x 6.5 x 3	168	599
2 x AA	50 x 37	0.5 / 0.7	5.20	0.91	50–1600	9.5 x 6.5 x 3	183	249
1 x Li-ion	76 x 43	0.2 / 0.1	2.66	0.58	80–3200	10 x 6 x 2.1	184	649
2 x AA	47 x 36	0.8 / 1.2	3.89	1.56	64–2000	10 x 7 x 4.5	235	399
1 x Li-ion	50 x 37	0.8 / 0.8	2.33	1.06	80–1600	9.5 x 6.5 x 2.5	151	499
1 x Li-ion	56 x 36	0.6 / 0.6	2.16	1.84	50–800	10 x 6 x 2.2	133	299
2 x AA	40 x 30	0.3 / 0.5	5.64	0.38	64–1600	10.5 x 8 x 8.5	350	299
1 x Li-ion	54 x 40	1.5 / 1.3	3.65	na	64–1600	10 x 6 x 2.4	140	599
1 x Li-ion	50 x 37	1.0 / 1.0	2.88	1.63	64–3200	10 x 6 x 2.4	145	399
1 x Li-ion	50 x 37	0.5 / 1.2	3.25	0.91	80–1600	10 x 6 x 2.5	153	249
2 x AA	56 x 42	1.0 / 1.0	4.81	0.84	64–1000	9.5 x 6.5 x 3	186	249
1 x Li-ion	50 x 37	1.1 / 1.5	2.59	1.63	64–2000	9.5 x 5.5 x 2.3	142	349
1 x Li-ion	54 x 41	1.4 / 1.5	3.20	2.51	64–3200	9.5 x 5.5 x 2.3	146	549
1 x Li-ion	50 x 39	1.5 / 1.5	3.20	na	50–1600	9.5 x 6 x 2	123	299
1 x Li-ion	69 x 39	1.5 / 1.6	3.12	0.49	64–1600	10.5 x 6 x 2.5	173	399
1 x Li-ion	54 x 40	1.0 / 1.2	3.70	1.39	100–800	9.5 x 6 x 3	157	299
2 x AA	50 x 37	1.0 / 1.8	4.28	1.59	80–400	9.5 x 6.5 x 3	188	179



Liquids on the line

Laundry liquids don't wash as well as the best powders, but they're kinder on your garden if you want to use your greywater on it.

nutshell

- ▶ The standout laundry liquid was OMO Matic Small & Mighty, which washed the best of all the liquids. It's also OK if you use all water from your washing machine on your garden.
- ▶ The rinse water from all the other liquids was found to be suitable for use on a garden, but the wash water only from those that didn't wash very well.

CHOICE tests regularly show that the best washing powders give a better wash than laundry liquids, but despite this many people prefer to use liquids. Some think they dissolve better and don't leave a residue on clothes, and it's easy to rub a little liquid on stains before throwing clothes in the wash. Powder proponents buy for the better performance and for convenience — it's easier and less messy to measure out.

This test included 21 laundry liquids: 14 for top loaders and seven for front loaders. For comparison, we also tested the two top-performing powder concentrates for top and front loaders from last year's test (CHOICE, April 2007). The best-performing liquids are in the *What to buy* list, below, but none washed as well as the top powders — see the table, page 54, for scores.

Our testers thought some of the liquids smelt pretty nasty, and the smell persisted in the clothes after washing. If you're trying a new brand, remove the lid in the supermarket and have a sniff before you buy it.

Mild, green liquid?

Many liquids are gentler than powders: the chemical tests CHOICE commissioned (see *Clean and green?*, page 55) showed more than half the tested liquids met our criteria for being usable in greywater, compared with fewer than a quarter of the powders when we did the same tests on them last year.

That's good news for people who use greywater from their washing machine on the garden — up to a quarter of Australians, according to recent ABS research. However, with the exception of OMO Matic Small & Mighty for front loaders, none of the liquids that wash well enough to make it into our *What to buy* list pass muster as greywater too. The rest of the best front-loader detergents are too saline, high in phosphorus and high in pH, while the best top-loader liquids have a little too much phosphorus.

Tip If you use powder and have a favourite detergent, try using less of it. You might still be satisfied with the wash, but it'll put a lower chemical load in your greywater.

What to buy \$



FOR TOP-LOADER MACHINES

COLD POWER Advanced OxyPlus	CENTS PER WASH
ALMAT High Performance Concentrate (Aldi)	42
NEW DYNAMO With a Boost of Sard OxyPlus	23
WOOLWORTHS SELECT Eucalyptus Advanced Stain Release Formula	46
	35

BEST BUY

FOR FRONT-LOADER MACHINES

CENTS PER WASH	
OMO Matic Small & Mighty	41
DYNAMO With a Boost of Sard OxyPlus Front Loader	44
COLD POWER Advanced for Front Loaders	41
WOOLWORTHS SELECT Front Loader	18
RADIANT Matic	54

BEST BUY

OMO Matic Small & Mighty received the highest score among liquids for dirt removal (but below average for tomato and grass stains) and is also OK to use in greywater on your garden.

Greywater basics

Greywater is the waste water from showers, baths, spas, handbasins, laundry tubs and washing machines. With water restrictions in many parts of Australia, using it on your garden could save hundreds of litres of water a day.

Treated or untreated? It can be treated (for example, filtered and treated with micro-organisms or chemicals) and stored to be used on the garden, or even in your toilet or washing machine. Alternatively it can be diverted directly to the garden with a plumbed-in diverter (with a switch so that if it's raining, it goes into the sewer instead). Conditions may apply in the area where you live: contact your local council for advice on options available.

If it's untreated, limit your usage to water from the shower or bath, and only the rinse water from the washing machine. Kitchen water contains fats and solids that might damage soil and plants.

DIY options include attaching an extra-long flexible hose from the washing machine to the garden, or using a bucket.

Storage Don't store untreated greywater for more than 24 hours: if you can't use it (because it's raining, say) don't keep it. If you're treating and storing it, keep the greywater underground, or under mulch — this helps prevent evaporation, as well as keeping it away from kids and pets.

Don't use greywater:

- If someone in your family is sick with gastro or flu or another contagious disease.
- On herbs or vegetables.

There's a full article with lots more information on using greywater in CHOICE, February 2008.

Using your wash to water

Washing machines account for almost a quarter of household waste water or — depending on your machine — about 60–180 litres per wash.

What's in the water? We tested the wash water only for chemicals that could harm your garden. What comes out of your machine will also include dirt, and perhaps bacteria and viruses from the dirty clothes. These are all good reasons for not storing untreated water.

Use rinse water Thanks to the effective removal of excess detergent during the post-wash spin cycle, rinse water is almost clean water. A switch on your plumbed-in diverter will allow you to use only rinse water, but unless you have an automated system, you'll have to keep an eye on the cycle and activate the switch between the wash and rinse cycles. The switch will also let you:

- Pump greywater into the sewer if it's been raining (and so it's not needed on your garden).
- Avoid using the water if you've been washing nappies, if someone's been sick or you've used bleach products in the wash.

Garden size The larger the irrigation area, the more you'll spread the chemical load. Our recommendations are based on an irrigation area of 150–200 m². Don't use greywater to water pot plants.

Accumulated chemical load If you collect the wash and rinse water before using it, the contaminants in the wash water will be diluted. However, the criteria we used in our chemical testing considered the total load of problem chemicals that will accumulate in your garden over time, not just their concentration when you first put them on, so the recommended minimum irrigation area (150–200 m²) still applies. Potential impacts on your garden are very dose-dependent — you could try reducing the amount of detergent you use, providing it still gets your clothes acceptably clean.

Problems There have been reports of greywater hoses acting as a siphon and pumping water from the washing machine while it's still washing or rinsing — something to consider if your washing machine doesn't seem to perform as well as usual. See *Letters*, page 10, for more on this. >

Washing machines account for almost a quarter of all household waste water.

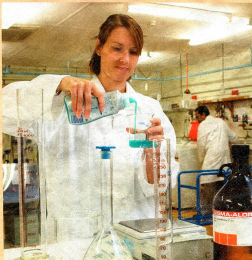
HOW WE TESTED

Dirt removal score We used each detergent to wash specially soiled fabric swatches (they're stained with oil, milk and a pigment) attached to a load of laundry items in cold (20°C) water. Using a spectrophotometer (which measures how much light is reflected off the swatches — that is, how 'white' they are), we then measured how much dirt each detergent removed, and expressed this measurement as a percentage. This machine is more accurate than the human eye — differences of about 6% are noticeable.

Performance on specific stains In addition to the swatches that test the general detergent effectiveness, we also included tests for common types of stain: grass (which tests detergents for their action on general stain removal plus a specific enzyme action that targets proteins) and tomato stains (enzyme 'cocktail' action and bleaching effect). Better than average performers have been noted in the table for each stain type.

Use in greywater

A lab that specialises in soil, water and waste water analysis tested the detergents for various chemicals and their pH, with the aim of finding which could most safely be used if you want to water your garden or lawn with greywater from your washing machine [see *Clean and green?*, page 55, for more information].



Liquids are messy to measure out with the cap — chances are you'll just pour them in, and maybe get variable wash results.

PRODUCT	SCORES			FEATURES		
	Dirt removal score (%)	Grass stain removal: above average	Tomato stain removal: above average	P or NP on packaging	Contains enzymes	OK to use in greywater*
Detergent (in order of dirt removal score, within groups)						
TOP-LOADER POWDER DETERGENT (FOR COMPARISON)						
Trimat Advanced Stain Removing Formula (Aldi)	84	✓	✓	P	✓	
Omo High Performance	83	✓	✓	P	✓	
TOP-LOADER LIQUID DETERGENT						
Cold Power Advanced OxyPlus	70	✓	✓	P	ns	
Almat High Performance Concentrate (Aldi)	69	✓	✓	P	ns	
Dynamo with a Boost of Sard OxyPlus New	69	✓	✓	P	ns	
Woolworths Select Eucalyptus Advanced Stain Release Formula	65	✓		P	ns	
Radiant AquaSave	61			P	ns	✓
Omo High Performance Small & Mighty	59			NP	✓	✓
Coles Smart Buy Concentrate Hot and Cold Wash	56	✓	✓	P		✓
Purity Sensitive	53			(A)		✓
Hurricane Planet Green	52		✓	NP	ns	✓
Surf Sunshine Small & Mighty	52		✓	NP	ns	✓
Hurricane Active Boosted Power Lemon	51		✓	NP	ns	✓
Green Care	47			NP		✓
Earth Choice Garden Safe Top & Front Loader Enviro Care	40			NP	ns	✓
Earth Choice New Powerful Top & Front Loader Enviro Care	40			NP	ns	✓
FRONT-LOADER POWDER DETERGENT (FOR COMPARISON)						
Drive Matic Advanced Enzyme Power Concentrate	85	✓	✓	P	✓	
Omo Matic	85	✓	✓	P	✓	
FRONT-LOADER LIQUID DETERGENT						
Omo Matic Small & Mighty	74			NP	✓	✓
Dynamo with a Boost of Sard OxyPlus Front Loader	72	✓	✓	P	ns	
Cold Power Advanced Frangipani & Eucalyptus New for Front Loaders	71	✓	✓	P	ns	
Woolworths Select Front Loader	71		✓	P	ns	
Radiant Matic	70		✓	P	ns	
Surf Tropical Small & Mighty	63	✓		NP	ns	✓
Green Care Front Loader	62			NP		✓

USING THE TABLE

Dirt removal score/stains See *How we tested*, page 53.

P or NP on packaging Phosphates (which contain phosphorus) help soften the water and keep extracted dirt in suspension. In the environment, however, high levels of phosphorus can cause excessive growth of blue-green algae in inland waterways.

The 'NP' symbol on packaging means a detergent contains no phosphorus, or less than 0.5%. Those listed as 'P' have more phosphorus but still comply with industry standards, containing less than 7.8 g per wash.

Contains enzymes Enzymes help break down protein, starch and biologically based stains such as blood, sweat and make-up.

OK to use in greywater Meets the criteria outlined in *Is it possible to be clean and green?*, far right.

Cost per wash This is based on the recommended dosage and the average price found in our price survey in January 2008.

DETAILS

Contact	Cost per wash (cents)
www.aldi.com.au	26
www.unilever.com.au	59
www.colgate.com.au	42
www.aldi.com.au	23
www.colgate.com.au	46
www.woolworths.com.au	35
www.pzcussons.com/markets/australia.asp	67
www.unilever.com.au	42
www.coles.com.au	26
www.naturesorganics.com.au	27
www.colgate.com.au	29
www.unilever.com.au	28
www.colgate.com.au	29
800 242 176	16
www.naturesorganics.com.au	12
www.naturesorganics.com.au	12
www.unilever.com.au	64
www.unilever.com.au	59
www.unilever.com.au	41
www.colgate.com.au	44
www.colgate.com.au	41
www.woolworths.com.au	18
www.pzcussons.com/markets/australia.asp	54
www.unilever.com.au	28
800 242 176	16

TABLE NOTES

ns Not stated.

* These results are based on the findings from Lanfax Laboratories, which specialises in soil, water and waste water analysis.

(A) Claims to be enzyme- and phosphate-free, but has no NP logo.

GREEN

IS IT POSSIBLE TO BE CLEAN AND GREEN?

The water from washing machines contains several chemicals that aren't good for plants or soil, and if the concentration or total load of these is too high, you'll eventually end up harming your plants and wrecking the soil.

CHOICE had a lab that specialises in soil, water and waste water analysis test the wash and rinse water from all the liquid detergents, using the dosage recommended by manufacturers for front and/or top-loader machines, as appropriate.

The components most likely to cause problems are phosphorus, salinity, sodium and pH, but we also looked at sulphur, boron and total alkalinity.

Results were considered on a per-wash basis, assuming intermittent use only in your garden (interspersed with clean water) and over an area of no less than 150-200 m². The rinse water for all the liquid detergents was found to be acceptable.

The wash water for those with a tick in the 'OK to use in greywater' column of the table meets all the criteria for safe use if used as above. Note that the amounts of detergent used were those recommended for 'normally' dirty clothes — if you use more detergent the results will be different.

Phosphorus

Small amounts of phosphorus can be useful for plants, and it's a major component of fertiliser. Australian soils are typically low in phosphorus, and some native species can't tolerate high levels.

Higher levels of phosphorus can be acceptable if you have clay soil, because it binds to clay minerals and doesn't leach away. On sandy soils, excess phosphorus can leach into groundwater. When it gets into waterways it can cause excessive algal growth, leading to toxic algal blooms.

Ideally, the amount of phosphorus per wash shouldn't exceed 1 g. With the exception of the OMO Matic liquid, the detergents that wash well tend to have higher levels of phosphorus.

Salinity

While all laundry detergents contain various salts, liquids often contain less than powders, and only three (DYNAMO, COLD POWER and WOOLWORTHS Select — all for front loaders) were considered too high for use on the garden.

Sodium

The sodium in some of the salts harms not only plants, but soils. It affects the soil's permeability and causes a loss of structural stability. All the liquids tested contained acceptably low levels of sodium.

Sodium adsorption ratio (SAR)

The ratio of sodium (from the detergent) to calcium and magnesium (in water) affects the sodium's impact on the soil's structure. This can be particularly problematic in soft water, such as rainwater, where there's little or no calcium and magnesium to

counter the effects of sodium. All those marked 'OK to use in greywater' are OK for SAR, with the exception of the GREEN CARE Front Loader liquid, which just missed the cut. Given that it met the other criteria, it's still OK to use overall.

pH

Laundry detergents are highly alkaline (that is, have a high pH) to help dissolve organic dirt, such as grease, oils and food scraps. Most biological systems prefer a pH between 6 and 9, and greywater with a pH value higher than this is likely to harm many plants and soil organisms. Three of the samples tested (again, the DYNAMO, COLD POWER and WOOLWORTHS Select, all for front loaders) have a pH higher than 10.

Total alkalinity

This is similar to pH, but is a more complex measure of how much chemical 'buffering' is in the detergent. Buffers help prevent pH changes in the water/detergent solution and the higher the buffering, the more acid is required to reduce the pH to a safe biological range. The net effect of this is that relatively neutral soils won't have enough acidity to overcome the buffering in the greywater, causing the soil to become too alkaline.

The same three liquids (DYNAMO, COLD POWER and WOOLWORTHS Select, all for front loaders) have a high total alkalinity.

Sulphur and boron

Sulphur and boron are important plant nutrients, though can be a problem if there's too much of them. None of the detergents had levels to cause concern.



'All-in-one' and one for all

Having a printer, scanner and copier in one package saves space and money — but they're far from perfect.

nutshell

► All-in-one printers are handy space savers, but they require a degree of compromise. Photo printing is slow, and scanning and copying don't provide great results.

► One printer used 6.3 W — when it was switched off.

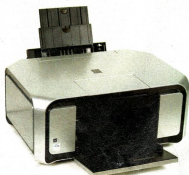
All-in-one printers (also called multifunction printers, MFPs or multifunction devices) are suitable for the home office or photo enthusiast. They combine inkjet printing (including colour photo prints), copying and scanning functions (none in this test can fax) in one device for less than the cost of buying three separate machines. They also save a lot of desk space, as none of the printers in this test is much bigger than your average inkjet printer.

We tested 19 all-in-ones priced between \$69 and \$599. As you can see from the table (page 58), they're a compromise, as none does all tasks well. The highest score for scanning was 68%, with most scoring in the 50s, and copying was even worse, with scores ranging from just 31% to 57%. Check the table for individual scores, but you'll find the two best all-rounders in our *What to buy* list.

We weren't able to report on ink usage and cost, as our test was conducted in conjunction with several other consumer organisations around the world, and manufacturers aren't consistent with ink cartridges for the same machine from country to country. We hope to resolve the problem and have this information in future tests.

In our last test, however, we found that in one year, replacing ink cartridges on some models can add up to more than twice the price of the printer (and you'll go through them quickly if you're printing a lot of colour photos), so take this into consideration — do you really need a colour printer? Past tests have shown that black-and-white lasers are generally much cheaper to run than inkjets.

What to buy



CANON Pixma MP970

PRICE \$399

GOOD POINTS

- Extremely versatile.
- Can do automatic double-sided printing (duplex).
- Has two trays with 150 sheets in each.
- Relatively quick to print colour photos.
- Good 8 inch x 10 inch colour photo score.
- Can scan slides and negatives.

BAD POINTS

- Takes up the most desk space of the tested models.
- Comparatively expensive to buy.



CANON Pixma MP610

PRICE \$299

GOOD POINTS

- Can print onto CD and DVD.
- Very versatile.
- Can do automatic double-sided printing (duplex).
- Has two trays with 150 sheets in each.
- Very quick to print colour photos.

BAD POINTS

- Only scored 54% for environmental aspects.

GREEN

ENVIRONMENTAL ASPECTS

The score for environment, which accounts for 5% of the overall score, is made up of the power usage when the printer is on standby (30 minutes after printing), idle (five minutes after printing) and off, and how much noise it makes while operating. Our top model (the CANON Pixma MP970) scored relatively well, but most didn't.

Surprisingly, energy usage when off was the downfall of many in this test. When switched off, a printer should use no power, but many did and would need to be switched off at the power point to stop drawing energy. The best in the test was the EPSON Stylus CX5500, which used 0.1 W when off. The worst was the LEXMARK X6570, using a ridiculous 6.3 W. Other culprits were the HP Photosmart C8180 with 4.9 W and HP C7280 with 4.4 W when switched off, which is an unacceptable waste of energy.

In terms of noise, none of them is particularly quiet. Most make a 'swishing' sound while printing and a 'clunking' sound when feeding the paper. The CANON Pixma MP210 and the EPSON Stylus CX5500 and CX8300 are the noisiest models in this test.

Printing

This is the most important function of these machines and the one used the most.

Photo printing is slow and the time taken varies according to the image source. We used a combination of tests: images from photo-editing programs for colour prints, a black-and-white photo, printing directly from a camera and from flash cards when the printer could do it. We also tested their ability to print regular text.

If you're into photo printing and want the convenience of one of these products, the top two CANON printers are a good choice — they're the fastest to print colour photos and they do a reasonably good job. See the table on the right for scores for the individual tasks we used to determine the overall printing score. >

USING THE TABLE

Higher scores mean faster speeds and better-quality results. We gave the colour spreadsheet and photo scores double weighting in the overall print score, and quality has higher weighting than speed. **Speeds** are in seconds and include the time the printer takes to spool the first page. Times for the black-and-white letter are for printing the page five times — dividing the time by five will give a rough indication of the time to print a page, but the first page will take longer because the printer has to prepare the page for printing (spool).

TABLE NOTES

na Not applicable.

About the rest

- The CANON Pixma MP520 is OK at printing and versatile but isn't quite good enough to make the *What to buy list*.
- The HP Photosmart C8180 and C6280 and the HP C7280 are all very versatile and produce very good colour photos, but they scored poorly for printing black-and-white text (a letter) and they use an unacceptable amount of energy when off.
- The CANON Pixma MX300 and EPSON Stylus CX8300 scored in the 50s and 60s for most functions, but the CANON has no memory card and the EPSON has no PictBridge.
- The BROTHER MFC-685CW is very versatile and has a built-in phone handset, but when switched off it uses 2.8 W.
- The CANON Pixma MP210 has no memory card slot or LCD viewer but is cheap to buy.
- The BROTHER DCP-350C is slow to print text and uses 1.7 W when off.
- The LEXMARK X4850 and X6570 have a built-in wireless connection but can't be used directly connected to a PC. The X6570 also uses a hefty 6.3 W when off.
- The BROTHER MFC-235C, MFC-260C, DCP-150C and DCP-135C have no LCD viewer and are all slow to print. They also all use more than 2 W when switched off.
- The DELL 948 has no LCD viewer, and is the only non-Mac-compatible printer in the test.
- The EPSON Stylus CX5500 has no memory card slot or LCD viewer.

Printing scores and times

PRODUCT	PERFORMANCE									
Brand / model (in rank order)	B&W letter score (%)	Time to print standard letter five times (sec)	Colour spreadsheet score (%)	Time to print colour spreadsheet (sec)	8" x 10" colour photo score (%)	Time to print 8" x 10" colour photo (sec)	4" x 6" colour photo score (%)	Time to print 4" x 6" colour photo using cable (sec)	Time to print 4" x 6" colour photo using card (sec)	
Canon Pixma MP970	59	31	70	21	79	108	65	39	100	
Canon Pixma MP610	65	31	72	17	67	98	57	49	56	
Canon Pixma MP520	65	37	69	20	68	142	54	59	59	
HP Photosmart C8180	27	50	76	30	86	222	56	69	59	
HP Photosmart C6280	30	52	69	29	83	220	51	na	47	
HP C7280	32	61	74	29	85	221	50	48	43	
Canon Pixma MX300	67	38	64	30	69	206	54	64	na	
Epson Stylus CX8300	83	77	44	24	24	329	55	103	89	
Brother MFC-685CW	40	100	59	33	52	410	54	162	123	
Canon Pixma MP210	64	40	63	30	60	194	52	57	na	
Brother DCP-350C	44	101	59	49	52	381	49	146	129	
Brother MFC-235C	41	102	64	46	48	554	49	222	na	
Lexmark X4850 Wireless	51	55	71	41	39	187	36	148	160	
Brother DCP-135C	44	103	57	48	47	383	41	231	na	
Brother DCP-150C	41	102	56	46	46	801	39	228	219	
Brother MFC-260C	39	102	59	46	46	706	37	227	216	
Lexmark X6570	83	58	73	43	31	241	36	145	156	
Dell 948	43	56	53	42	39	253	35	158	171	
Epson Stylus CX5500	55	115	64	90	13	923	na	na	na	

HOW WE TESTED

Printing Testers assessed the quality and time taken to print a standard A4 business letter, colour spreadsheet, an A4 page with text, colour and greyscale pictures, a test pattern and a page of photographs. Details of scores and time taken for various printing tasks are given in the *Printing scores and times table*, page 57.

Copying They looked at the quality and time taken to copy a black-and-white letter, colour document and photo when not connected to a PC.

Scanning Testers assessed the quality and time taken to scan a black-and-white letter, colour document and photo when connected to a PC.

Ease of use They assessed how easy the printer is to use, including the clarity and completeness of manuals, documentation and online help.

Versatility They looked at the type and number of features that could make the printer useful in different situations. These included extra printing options, automatic feeder, double-sided (duplex) printing, memory card reader, direct photo printing from camera, types of ink cartridges, print head type, control panel, CD printing and connection options.

Environment Testers measured the power usage in standby and idle modes, and noise when operating.

Energy use when off (W) They also checked whether the energy use was zero when the printer was turned off. Any more than that means the only way you can stop the printer using power is to turn it off at the wall.

USING THE TABLE

Scores The overall score is made up of:

- Printing: 35%
- Ease of use: 20%
- Copying: 15%
- Scanning: 15%
- Versatility: 7%
- Environment: 5%
- Direct photo printing from a camera or flash card: 3%

Direct photo printing from a camera or flash card

CF = Compact Flash card

MS = Memory Stick

SD = Secure Digital card

MM = MultiMedia card

PB = PictBridge

xD = xD card

4" x 6" photo tray Is there a separate tray or designated tray position for printing photos of this size?

Print heads Is the ink head

attached to the printer (P) or integrated (I) into the ink cartridge? If it's part of the cartridge you get a new one each time you change cartridges, but you're paying extra for it.

Separate cartridges for each of the three colours and black.

Display function shows a preview of the document or its status.

Connections All the printers have USB 2.0. Some also have Ethernet (E), wireless 802.11b/g (WLAN), infrared (IR) or Bluetooth to connect to your computer.

Dimensions Size of the printer, including bits that stick out, when the printer is ready to print.

Mac-compatible All the printers are Windows 98/Win XP/Vista and Mac OS X compatible except the DELL 948, which isn't Mac-compatible.

TABLE NOTES

na Not applicable.

PRODUCT	PERFORMANCE									FEATURES				SPECIFICATIONS	
Brand / model (in rank order)	Overall score (%)	Printing score (%)	Ease of use score (%)	Copying score (%)	Scanning score (%)	Versatility score (%)	Environment score (%)	Direct photo print score (%)	Energy used when off (W)	Direct photo printing from a camera or flash card	Double-sided printing	CD printing	Paper trays	4" x 6" photo tray	Paper capacity main / second
Canon Pixma MP970	72	76	77	50	68	94	73	68	0.6	CF, MS, SD, MM, PB	✓		2		150 / 150
Canon Pixma MP610	68	75	76	57	57	75	54	62	0.6	CF, MS, SD, MM, PB	✓	✓	2		150 / 150
Canon Pixma MP520	65	68	76	54	54	70	54	61	0.6	CF, MS, SD, MM, PB			2		150 / 110
HP Photosmart C8180	63	65	75	31	64	93	41	67	4.9	CF, MS, SD, MM, xD, PB		✓	1	✓	100 / na
HP Photosmart C6280	62	63	74	52	52	82	43	61	3.7	CF, MS, SD, MM, xD	✓		1		100 / na
HP C7280	61	59	75	45	50	93	47	60	4.4	CF, MS, SD, MM, xD, PB	✓		1	✓	100 / na
Canon Pixma MX300	60	62	73	53	56	36	67	54	0.8	PB			1		100 / na
Epson Stylus CX8300	60	58	75	50	54	67	49	52	0.2	CF, MS, SD, MM, xD			1		120 / na
Brother MFC-685CW	59	56	72	45	57	82	37	55	2.8	CF, MS, SD, MM, xD, PB			1	✓	100 / na
Canon Pixma MP210	58	55	72	50	63	36	62	52	0.8	PB			1		100 / na
Brother DCP-350C	55	49	72	45	57	60	57	49	1.7	CF, MS, SD, MM, xD, PB			1	✓	100 / na
Brother MFC-235C	54	47	70	45	61	51	53	49	2.6	CF, MS, SD, MM, xD, PB			1		100 / na
Lexmark X4850 Wireless	54	53	65	47	53	67	38	45	0.3	CF, MS, SD, MM, xD, PB	✓		1		100 / na
Brother DCP-135C	53	47	70	43	56	51	55	41	2.4	PB			1		100 / na
Brother DCP-150C	53	49	70	45	50	56	55	38	2.3	CF, MS, SD, MM, xD, PB			1		100 / na
Brother MFC-260C	53	48	70	45	54	56	52	37	2.9	CF, MS, SD, MM, xD, PB			1		100 / na
Lexmark X6570	53	57	60	38	51	65	34	39	6.3	CF, MS, SD, MM, xD, PB	✓		1		100 / na
Dell 948	48	45	60	36	48	53	47	38	0.3	CF, MS, SD, MM, PB			1		100 / na
Epson Stylus CX5500	44	34	67	35	47	60	48	na	0.1				1	✓	80 / na

What to look for

PRINTER BASICS

- **PictBridge (PB)** allows digital cameras and printers to communicate. The printer and camera don't have to be of the same brand, but both must be PictBridge-compatible and the connection between them a USB cable. Once connected, the camera can control the basic printer functions so you can print without a computer.
- **Connections** All the models in this test connect to the computer via USB cable and all except the HP Photosmart C6280, EPSON Stylus CX8300 and CX5500 allow direct printing from a digital camera using PictBridge. Most will allow printing directly from the camera's flash memory card by putting it into a slot in the printer (see the table for which do this). All models that can print directly from flash cards accept Compact Flash types I and II, Secure Digital, MultiMedia Card and Memory Stick; some accept an xD Card.
- **Double-sided printing (duplex)** allows you to print on both sides of the page. All models in this test that have this feature will turn the page without you having to intervene.
- **CD printing** The CANON Pixma MP610 and the HP Photosmart C8180 allow you to print straight onto a CD or DVD that has a special coating, which replaces the old system of printable stickers.

- **Bluetooth connection** allows printing from your mobile phone or PDA. Check the table for which models have this feature.
- **OCR (optical character recognition)** software, which recognises printed and written text that's been scanned, is supplied for all models.
- **Automatic document feeder** The BROTHER MFC-685CW and MFC-260C, DELL 948 and LEXMARK X6570 all come with an automatic document feeder, which makes multiple copies unattended.



LCD An LCD screen is useful for printers that can print directly from digital memory cards. See the table for those that have one and their sizes.

PHOTOGRAPHY: LEST

Separate cartridges	Display size (cm)	Display function	Connections (as well as USB 2.0)	Mac-compatible	Max. scan resolution (dpi)	Size (cm, W x H x D)	Contact	Price (\$)
✓	7.5 x 5.5	Colour	IR, Bluetooth (optional), Ethernet	✓	9600	47 x 34.3 x 57.2	www.canon.com.au	399
✓	5 x 3.75	Colour	IR, Bluetooth (optional)	✓	9600	45 x 37 x 54.6	www.canon.com.au	299
✓	4.25 x 3.25	Colour	Bluetooth (optional)	✓	4800	45.8 x 32 x 58	www.canon.com.au	159
✓	7 x 5.25	Colour	Bluetooth, Ethernet, WLAN	✓	9600	44.5 x 21.6 x 50.8	www.hp.com.au	599
✓	4.75 x 3.75	Colour	Ethernet	✓	4800	44.5 x 21.6 x 55.5	www.hp.com.au	349
✓	4.75 x 3.5	Colour	Bluetooth (optional), Ethernet, WLAN	✓	4800	45 x 24.2 x 55.9	www.hp.com.au	449
	5.5 x 1.4	Status only		✓	1200	46.4 x 32 x 48.3	www.canon.com.au	179
✓	5 x 4	Colour	IR	✓	2400	44.5 x 33.7 x 40	www.epson.com.au	179
✓	8 x 3	Colour	Ethernet, WLAN	✓	2400	46.5 x 17.8 x 47	www.brother.com.au	399
	2 x 2	Mono, count only		✓	1200	45 x 30 x 57	www.canon.com.au	69
✓	4 x 3	Colour		✓	2400	39 x 16 x 45.7	www.brother.com.au	199
✓	5 x 1	Status only		✓	2400	39 x 14 x 47	www.brother.com.au	179
	5 x 3.75	Colour	Ethernet, WLAN	✓	1200	45.1 x 29.9 x 53	www.lexmark.com.au	199
✓	5 x 1	Status only		✓	2400	39 x 14.6 x 45.7	www.brother.com.au	119
✓	5 x 1	Status only		✓	2400	39 x 14.6 x 45.7	www.brother.com.au	129
✓	5 x 1	Status only		✓	2400	39 x 17.8 x 45	www.brother.com.au	199
	5 x 1.5	Status only	Ethernet, WLAN	✓	1200	44.5 x 30.5 x 47	www.lexmark.com.au	279
	5 x 1.5	Status only	Bluetooth (optional), Ethernet	✓	1200	45.7 x 30 x 50.8	www.dell.com.au	199
✓	na	na		✓	1200	44.5 x 34.3 x 47	www.epson.com.au	89



Dock 'n' load

These speaker docks let you listen to your music without headphones, but don't expect too much in terms of sound quality.

nutshell

► Ten medium-priced iPod speaker docks on test — all are a single unit, but vastly different in shape and size. ► Easy portability and good sound quality seem to be mutually exclusive. For most of these docks, the more compact and lightweight it is, the poorer the sound.

Have you walked down the street lately or caught a bus and spotted anyone who *wasn't* listening to music via the ubiquitous earphones connected to an MP3 player in a pocket? The sight of young people in particular without headphones or wires dangling from their ears is becoming increasingly rare. But at home the wires can come off. A speaker dock lets you listen to digital music aloud, without being attached to it. You simply dump the iPod in the dock and it gets recharged while it's playing.

For this test we bought 10 medium- to higher-priced speaker docks that let you share your music at home or away. They're all one-piece, portable docks, but they differ vastly in shape and size.

All are for use with most iPods — Apple's MP3 player and the most popular brand on the market (but some early models may not fit). And all except the BOSE have an auxiliary input jack so you can connect other sound input sources such as a CD player, radio or computer, or use them with another brand of MP3 player. Without an auxiliary line input, the BOSE can be used only with an iPod. That's pretty limiting, especially as it costs more than the others in our test. It scored well overall, but because of this limitation, we've excluded it from the *What to buy* list.

Do you need one?

An iPod and one of the speaker docks we tested won't replace a good-quality hifi system, which will give you much better sound but costs more to buy in the first place. If you have one that's not too basic, it should have an analogue input socket that you can connect an MP3 player to with a separate cable.

If all your music is on an iPod and you don't have a hifi system, it's worth investing more money for a good system that'll give you better-quality sound (see *Wired for sound?*, page 62). However, a speaker dock could come in handy for use in a bedroom as a second system complementing an existing hifi system in the living room. Teenagers will want one for their room, to get rid of the dangling earphones for a while, or you might want one because it's so portable.

Taking it places

Music for parties in the garage or barbecues on the deck can be problematic with a bulky, heavy hifi system. The standalone, one-piece speaker docks we tested, on the other hand, are comparatively portable. Some are even so lightweight and compact they can easily be packed for travelling. If you want to use it away from mains electricity, though, make sure it can run on battery power, rechargeable ones preferably. >

USING THE TABLE

Scores The overall score is made up of:

- Sound quality: 70%
- Ease of use: 20%
- Standby energy: 10%

Features See *What to look for*, page 62, for details on these and other features.

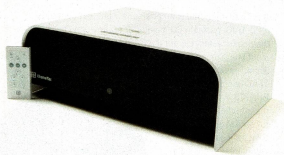
Prices are recommended retail, as of March 2008.

TABLE NOTES

(A) Discontinued, but may still be available in some shops.

PRODUCT	PERFORMANCE
	Overall score (%)
Brand / model (in rank order)	
XtremeMac Tango (A)	75
TEAC SR-Lxi-B	71
Bose SoundDock	70
EDS SP250	68
Logic3 JiveBox MIP100K	68
Altec Lansing inMotion IM600	66
Logitech Pure-Fi Anywhere S-00001	58
CyruLink Link Dock	56
JBL on Stage III	55
Philips Docking Entertainment System AZ1330D (A)	53

What to buy



Xtrememac Tango

PRICE \$299

GOOD POINTS

- The only speaker dock in the test that handled all test music without major faults.
- The only dock with enough bass for dance music.

BAD POINTS

- None to mention, unless you're put off by the unusual white design.



BEST
BUY

TEAC SR-Lxi-B

PRICE \$199

GOOD POINTS

- Handles vocal pieces well.
- Includes AM/FM radio.

BAD POINTS

- Some distortion at the very low end.

An iPod and speaker dock won't replace a good-quality hifi system, but could be handy in a bedroom or teenager's room.

About the rest

- The BOSE is more expensive than the others and has no audio input jack, so you can't use it with any sound source other than an iPod.
- If you want more than just a speaker dock, the EDS also has an AM/FM radio, the ALTEC LANSING an FM radio and the PHILIPS an FM radio and a CD player built in.
- If you want to take your speaker dock when you travel, the ALTEC LANSING and LOGITECH are compact

and can easily be run without mains power: they have a rechargeable lithium-ion battery. The JBL and PHILIPS can be run on six AA and D cell batteries respectively. However, the ALTEC LANSING is the only one that gives even reasonably good sound; the LOGITECH, CYRUSLINK, JBL and PHILIPS docks were all underpowered and scored poorly for sound.

Standby energy score (%)	FEATURES				SPECIFICATIONS			
	Rechargeable dock	Recharges MP3 player when docked	Line in for other sound sources	Stereo features	Dimensions (mm, H x W x D)	Weight (kg, incl. dock and power cord)	Contact	Price (\$)
60	✓	✓	✓	2.1 (subwoofer)	129 x 363 x 251	3.3	www.xtrememac.com	299
70	✓	✓	✓		182 x 321 x 72	2.9	www.teac.com.au	199
50	✓	✓	✓		169 x 304 x 165	2.5	www.bose.com.au	449
50	✓	✓	✓	3D sound processor	239 x 454 x 165	6.6	02 9666 5888	250
80	✓	✓	✓	2.1 (subwoofer)	193 x 180 x 180	3.0	www.logic3.com	299
70	✓	✓	✓	SFX	153 x 283 x 119	1.2	www.alteclansing.com	299
70	✓	✓	✓	StereoXL	94 x 333 x 62	0.9	www.logitech.com	230
70	✓	✓	✓		97 x 206 x 114	1.3	02 4351 9663	149
70	✓	✓	✓		52 x 191 x 191	0.7	www.jbl.com	330
60	✓	✓	✓	Dynamic Bass Boost	145 x 351 x 256	3.6	www.philips.com	210

Wired for sound?

Only the top-scoring XTREMEMAC dock scored more than 70% for sound quality. Our expert panel all agreed that it was the only one of the speaker docks tested that produced enough bass for dance music. Five other docks scored between 55% and 70%.

Three of the remaining four docks with poor scores for sound quality (45% or lower) were among the lightest and smallest docks in the test. Such little bulk and high portability obviously comes at the cost of sound quality. They simply lack the power to fill a larger room with good-quality sound — some of them started to distort the sound when played at higher volume.

The score for energy use on standby in these smaller docks was good, but it reflected how underpowered they are. When they played rock 'n' roll music, most of them used only about double the amount of power they used on standby. ■

What to look for

USEFUL FEATURES

The table on page 60 lists which models have these features, unless it's noted here.

- **Rechargeable dock** To play music outside, or wherever there's no mains power, the speaker dock needs to be able to run on battery power. The ALTEC LANSING and LOGITECH have an internal, rechargeable battery; two of the other docks tested can run on batteries you supply — the JBL and PHILIPS take AA and D cells respectively (six, which increases the weight of the PHILIPS dock considerably).
- **Recharge while docked** Recharges your MP3 player while you play music, so you don't need to attach it to a PC via a USB cable or buy a separate iPod charging dock.
- **Stereo features** Some of the docks tested have special features, such as a stereo field enhancer on the ALTEC LANSING, stereo widening effect on the LOGITECH and bass booster on the PHILIPS.
- **Portability** This is important if you want to take the speaker dock with you on holiday, to picnics or the like. The smaller and lighter the dock, the higher the portability; a carry handle is useful too. We consider four of these docks to be highly portable: the ALTEC LANSING, LOGITECH, CYRUSLINK and JBL.

Auxiliary input line is an analogue input that connects a CD, DVD, portable CD, computer or tape player. All the docks tested, except the BOSE, have an auxiliary input line. Some of the docks also come with an extra 3.5 mm jack for output, such as the TEAC (pictured), EDS, JBL and PHILIPS. From left to right, the attachment points are for an AM and FM aerial, S-video, composite video, headphones and auxiliary input.



Remote control Well-spaced keys and clear and intuitive labelling make it easier to use. All the docks tested have one.

HOW WE TESTED

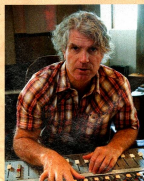
Sound quality A panel of three listeners with experience in the recording and sound engineering field (see *Meet the experts*, right) awarded scores for each speaker dock after listening to six music tracks using an 80 GB video iPod. The music files were in the *.wav format (lossless) and ranged from choir to rock. We averaged their scores for the sound quality score.

We didn't conduct separate technical tests, as they're more suitable for testing the sound source, which was the same iPod for all docks tested.

Ease of use Our CHOICE tester assessed how easy it is to set up the dock and follow the instructions.

Standby power We also measured the docks' energy use on standby — the higher the score, the lower the power consumption.

Meet the experts



Shane Fahey

Shane is owner of Megaphon Studios and a sound engineer.



Steve Wilson

Steve is mastering engineer with Reaktor Audio Services.

Belinda Trimboli

Belinda is a masters student in sound design at the Australian Film, Television and Radio School.

We thank them all for their expertise, and their patience while listening to the same pieces of audio over and over again, locked in a special listening room at Megaphon Studios.

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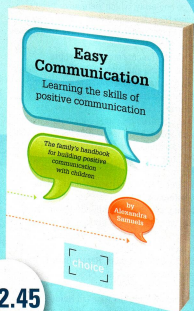
Easy Communication

The family's handbook for building positive communication with children.

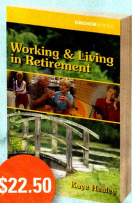
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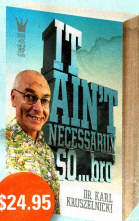
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Nowadays there are so many product recalls we may not be able to print all of them in CHOICE. For comprehensive recall information go to the Product Recalls Australia website: www.recalls.gov.au. If you don't have web access, call the Product Safety Policy section of the ACCC on 02 6243 1262.

Companies often rent 1800 numbers for a couple of months after a recall is announced. If the number given is no longer operating, phone the manufacturer or retailer direct.

COT ■ DVIN Corporation has recalled **Pinewood Cots**, model numbers YD308 and YD6288, sold through Grays Online and eBay, which were advertised for sale between May 2007 and January 2008. They were sold to customers in the ACT, NSW, Queensland and Victoria.

The problem The cots may not meet the requirements for the appropriate design dimensions and measurements or the labelling requirements of the mandatory safety standard for cots for household use.

What to do Stop using it until you contact the company on 1800 440 757, fax 02 8824 8600 or at DVIN Corporation Australia, Unit 4, 10-12 Carnegie Place, Blacktown 2148.

FOOD ■ Safcol Australia has recalled **Safcol Premium Selection Tuna** range, 95 g, with gold foil top packaging, and **Safcol Sandwich Delite Tuna** range, 95 g, with gold foil top packaging.

The problem They may contain microbial contamination.

What to do Don't eat them. Return them to the place of purchase for a refund.

FOOD ■ Woolworths has recalled **Home Brand Oyster Sauce**, 500 mL glass bottle, batch code GJ03, with a best-before date of 30/06/2009, and sold in the ACT, NSW and WA.

The problem It contains wheat flour, a potential allergen, which isn't declared on the packaging.

What to do Don't eat it if you have an allergy or intolerance to wheat flour. Return it to the place of purchase for a refund.

FOOD ■ Goodman Fielder has recalled **Praise Seafood Sauce**, 370 mL plastic squeeze bottle, with a best-before date of 15 Nov 2008.

The problem It contains fish, malt and barley, all potential allergens which aren't declared on the packaging.

What to do Don't eat it if you have an allergy or intolerance to fish, malt or barley. Return it to the place of purchase for a refund.

TOYS ■ Mega Brands Australia has recalled all Magnetix Building sets, various MagnaMan Magnetix Action figures and Magtastik and Magnetix Jr Pre-School magnetic toys in the following designs:

- MagnaMan Alien, green, model 28170.
- MagnaMan Robot, red, model 28171.
- MagnaMan Flame, orange, model 28172.
- MagnaMan Gigantor, blue, model 28173.
- MagnaMan Toyota the Samurai, purple, model 28164.
- MagnaMan Sir Lancelot the Knight, gray, model 28165.
- MagnaMan Eric the Viking, blue, model 28166.
- MagnaMan Brutus the Gladiator, yellow, model 28167.

- MagnaMan Robot Assortment, model 28198.
- MagnaMan Vac Metal, model 28327.
- MagnaMan 4 pack, model 28175.
- MagnaMan 3 pack, model 28333.
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- MagnaMan Vac Metal Assortment, model 28327.
- MagnaMan Assortment, models 28254 or 28199.
- Magtastik Starter set, model 427.
- Magtastik Deluxe Set, model 428.
- Magtastik Primary, model 429.
- Magtastik Primary Starter, model 431.
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- 12 Piece Mag Bag, model 462.
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- Magnimals Dog, model 425.
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- Mag Mobile Assortment, model 433.
- Magnimals Pet Set, model 436.
- Magnimals Bonus Pack, model 446.
- Easter Pack, model 469.

The model number is printed on the front of the product's packaging. Toys were sold through Kmart, Target, Myer, Toys 'R' Us and independent toy retailers from 2006, and MagnaMan figures were sold through Kmart from January 2005 to December 2007.

The problem The small magnets can detach and pose a choking hazard to young children. If more than one magnet is swallowed, they can attract each other and cause intestinal perforations or blockages.

What to do Remove them from the reach of children. Contact Mega Brands Australia to receive a free replacement toy, on 03 9501 2029 between 9 am and 5 pm, Monday to Friday; email adminsupport@megabrands.com; or go to www.megabrands.com.

DRINK BOTTLE ■ Hunter Leisure has recalled **Huffy Kids Water Bottle with Cage**, item number 164/96944, APN 931238296440.

The problem The nozzle may dislodge and pose a choking hazard.

What to do Stop using it. Return it to any Kmart store for a refund.

DRINK BOTTLE ■ Spartan has recalled **Spartan Water Bottle**, sold as part of the Spartan sports pack through Kmart stores.

The problem The nozzle may dislodge and pose a choking hazard.

What to do Stop using it. Return it to any Kmart store for a replacement bottle.

SUNGLASSES ■ Hagemeyer has recalled **Cancer Council Australia sunglasses**, models 3001LB, 3004LB, 3005LB and 3006LB, fitted with a grey lens. The model number can be found on either the tag or on the inside of the frame of the sunglasses.

The problem They don't comply with the mandatory labelling requirements of the Australian standard for sunglasses and fashion spectacles. They're not suitable for driving, as the ability to recognise and distinguish traffic signals may be impaired.

What to do Don't use them when driving. Return them to Hagemeyer, 35 Centre Road, Scoresby 3179, or to the place of purchase for a refund or exchange.

VISION AUSTRALIA ■ Vision Australia has recalled **Humanware Daisy CD player and power adapter**, **Victor Reader Classic + 103** (player, DVD Switching Adapter), model 103VRC (player), DSA-0151A-07 AS AR (adapter).

The problem The plastic case of the power adapter may melt or crack, exposing live electrical wires. This is of particular concern and danger to vision-impaired people.

What to do Vision Australia is contacting all known customers, or you can contact Vision Australia on 03 9864 9643 for further information.

AIR CONDITIONER ■ Tadiran Appliances has recalled **Tadiran High Wall air conditioning unit**, model TGL-35H. It's a factory-made assembly that's part of a system that provides heating and cooling using a vapour-compression system. It's made of a main plastic chassis and is installed in a horizontal position and attached to the wall by a bracket. It was sold in Queensland.

The problem A fire may start in the unit's control box.

What to do Don't use it. Call 03 8551 0362 to confirm if your unit is affected.

KETTLE ■ Meyer Cookware Australia has recalled **Raco Deco Cordless Dome Kettles**, manufactured between October 2006 and December 2007. A four-digit batch code can be found on the underside of the kettle. The affected kettles are coded from 0640 to 0752 with model numbers 42320RDE, 42321RDE, 42322RDE, 42323RDE and 42324RDE, sold between November 2006 and March 2008.

The problem The heating element may rupture and stop working, sometimes causing sparking. **What to do** Stop using it. Contact Meyer Cookware on 1800 678 704, 9 am to 5 pm, Monday to Friday, AEST, to arrange a refund.

+ ENVIRONMENTAL SOCIAL EQUITY

Carbon trading scheme must protect consumers

Increasing energy efficiency is the quickest and cheapest way to cut greenhouse pollution. CHOICE's report *Energy & Equity*, written jointly with the Australian Conservation Foundation and the Australian Council of Social Service, finds that an energy-efficient home can be significantly better off, despite facing higher energy prices.



Australia's emissions trading scheme must guarantee social equity, as well as be effective.

The Federal Government has committed to starting an emissions trading scheme in 2010 to help reduce Australia's greenhouse gas emissions. Our report recommends that the scheme be developed with significant 'complementary' measures — extra policies that will reinforce action on climate change and ensure

that it's fair.

Under the scheme, permits to emit carbon and other greenhouse gases will be created and traded, which will create a carbon price. This emissions trading will increase the costs to consumers of essential services such as electricity, so it's critical to ensure costs aren't borne disproportionately by low-income households. We need tariff structures and safety nets that

recognise the essential nature of energy and water, while pricing to encourage efficient consumption.

The Garnaut Climate Change Review, an independent study set up last year by the states and now endorsed by the Federal Government, will soon make major medium- and long-term policy recommendations for Australia's response to climate change. An important output from the review is a discussion paper on the design of the emissions trading scheme. It says, "The case for substantial measures to reduce the impact of the [emissions trading scheme] on living standards of low-income households is strong."

The programs required to achieve energy efficiency and to compensate disadvantaged households could be funded by auctioning carbon permits in the emissions trading scheme. But it's important that the government starts now in helping consumers prepare for the low-carbon economy. The timing and size of complementary measures mustn't be conditional on emissions trading revenue, which is uncertain and won't come until later.

CHOICE won't support an emissions trading scheme that fails to guarantee social equity for householders and doesn't deliver meaningful emissions reductions that ensure Australia plays its part in averting dangerous climate change. ■

Fighting for fair fees

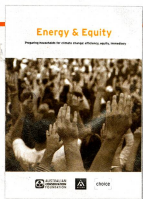
CHOICE has backed a proposal for a new law that would give the Australian Securities and Investments Commission powers to regulate bank penalty fees.

A penalty fee is charged when a customer breaches a term or condition of their bank account contract, which puts them in 'default'. The default may occur as a result of overdrawing the account, having insufficient funds to process a direct-debit payment or making a late payment on a credit card. Penalty fees have increased greatly in recent years and can be as high as \$50 for a single default. CHOICE thinks this is unfair.

As part of our Fair Fees campaign, we've asked consumers to challenge penalty fees they've been charged, using our template letter (at www.fairfees.com.au). Many have been successful, but it's not a long-term solution. All fees should be fair in the first instance.

The proposed law would provide an industry-wide solution to the problem of penalty fees. It would limit penalty fees to the actual loss incurred by the financial institution as a result of the customer's default. In other words, banks and other financial institutions won't be able to inflate penalty fees to punish customers or generate extra profit.

CHOICE thinks ASIC is the appropriate regulator to undertake this task. It already has responsibility for financial services and a commitment to consumer protection. The Senate Economics Committee will hand down its report in September. We'll be recommending that the law go ahead. ■



ENERGY & EQUITY

To get a copy of *Energy & Equity* by CHOICE, ACSS, call 02 9577 3399 or go to www.choice.com.au/climatechange.

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 * Indicates an update of a previous report, additions or corrections to reports, small follow-up items, letters or recalls.

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